

WESTERN UNIVERSITY OF HEALTH SCIENCES
Pomona, California

**COMPARING TELEPHONE VERSUS MAIL DISSEMINATION OF THE
HOSPITAL CONSUMER ASSESSMENT OF HEALTHCARE PROVIDERS AND
SYSTEM SURVEY (HCAHPS) AMONG PATIENTS WITH LOW LITERACY**

A dissertation submitted to the College of Graduate Nursing
in partial fulfillment of the requirements for the degree

Doctor of Nursing Practice

Geraldine C. Fike

College of Graduate Nursing

February 2012

WESTERN UNIVERSITY OF HEALTH SCIENCES

**COMPARING TELEPHONE VERSUS MAIL DISSEMINATION OF THE
HOSPITAL CONSUMER ASSESSMENT OF HEALTHCARE PROVIDERS AND
SYSTEM SURVEY (HCAHPS) AMONG PATIENTS WITH LOW LITERACY**

by

Geraldine C. Fike

has been approved by the College of Graduate Nursing

in partial fulfillment of the requirements

for the degree

Doctor of Nursing Practice

Copyright © 2011 Geraldine C. Fike
All Rights Reserved

The author hereby certifies that the use of any copyrighted material in the dissertation entitled;

“COMPARING TELEPHONE VERSUS MAIL DISSEMINATION OF THE
HOSPITAL CONSUMER ASSESSMENT OF HEALTHCARE PROVIDERS AND
SYSTEM SURVEY (HCAHPS) AMONG PATIENTS WITH LOW LITERACY”

Beyond brief excerpts is with the permission of the copyrighted owner, and will save and hold harmless Western University of Health Sciences from any damage, which may arise from such copyright violations.

ABSTRACT

COMPARING TELEPHONE VERSUS MAIL DISSEMINATION OF THE HOSPITAL CONSUMER ASSESSMENT OF HEALTHCARE PROVIDERS AND SYSTEM SURVEY (HCAHPS) AMONG PATIENTS WITH LOW LITERACY

by Geraldine C. Fike, DNP

The Hospital Consumer Assessment of Healthcare Providers and Systems Survey (HCAHPS) is a standardized survey instrument used by many hospitals for the purpose of measuring patient's perspectives regarding care received during their hospitalization. The survey provides national benchmark information enabling consumers to make comparisons of hospitals nationwide. The information is also useful for hospitals to improve quality of care. Despite these benefits, mailed surveys at one Southern California hospital were found to have a low rate of return and item completion felt to be due to the low literacy level of the population. Therefore a feasibility study was conducted with the following purposes: (a) to describe the rate of return and number of completed HCAHPS survey items from adults with low literacy who received the survey by mail and by phone dissemination following hospital discharge; and (b) to compare differences in the rate of the HCAHPS survey returns and number of completed items between the two groups. An experimental design was used to conduct this descriptive/comparative study and Flaskerud and Winslow's Vulnerable Population Conceptual Model was the framework to guide the study. Two hundred and eighty-six adult patients with low literacy (defined for the purpose of this study as patients with less

than high school education) volunteered to participate in the study from the one selected Southern California hospital. Findings of the study revealed a 7.4 times (95% confidence intervals [CI], 3.92, 14.01) more likelihood of survey returns among the phoned group compared those who received the survey by mail. Individuals who were phoned the survey were also more likely to complete all items compared to those who were mailed the survey (Odds Ratio, 33.5; 95% CI 3.3, 128.9). Assessing the health literacy of patients is important to ensure that the HCAHPS is understood and the survey returned and items completed. Telephone dissemination should be considered for vulnerable patients with low literacy levels. Nurses prepared with the Doctoral of Nursing Practice Degree may play a significant role in assisting hospitals to assess health literacy of patients and to improve patient satisfaction survey return rates that may improve overall health outcomes.

TABLE OF CONTENTS

	Page
COPYRIGHT STATEMENT.....	iv
ACKNOWLEDGEMENTS	v
DEDICATION.....	vi
ABSTRACT.....	vii
TABLES.....	xiv
FIGURES.....	xv
CHAPTERS	
I. INTRODUCTION.....	1
Background	2
Patient Satisfaction Survey	2
Implementation of the Hospital Consumer Assessment of Healthcare Providers and Patients	2
Statement of the Problem	7
Patient Satisfaction Surveys and Low Literacy	7
Purpose of the Study	9
Research Questions	9

	Page
HCAHPS Survey Dissemination and the Vulnerable Population- Background of the Community.....	11
Significance of the Feasibility Study to Clinical Practice	14
Definition of Key Terms	15
Limitations, Assumptions & Controls	16
Limitations	16
Assumptions	17
Controls	18
Summary	19
II. THEORETICAL FRAMEWORK/PERSPECTIVE	21
Vulnerable Population Conceptual Model (VPCM).....	22
VPCM-Use in HCAHPS Dissemination	24
Summary	27
III. REVIEW OF LITERATURE.....	28
Overview and Description of the HCAHPS.....	28
Illiteracy and Health Care.....	32
Illiteracy and Survey Data	33
Illiteracy and Health Care Assessment via Survey Data	34
Summary.....	36
IV. METHODS.....	38

	Page
Methodology of the Feasibility Study.....	40
Design	40
Setting	42
Sample	43
Ethical Considerations and Institutional Review Board.....	43
Procedure.....	45
Phase I-Determination of Eligibility	46
Demographic Instrument	46
Phase II-Dissemination of HCAHPS Survey.....	48
HCAHPS Survey Instrument	48
Sampling Method	49
Modes of Dissemination	50
Mailed Surveys	51
Phone Dissemination	52
Data Analysis	53
Summary	54
V. OUTCOME ANALYSIS.....	55
Results	57
Sample/Participants	57

	Page
Demographic Characteristics	58
Research Question #1	62
Research Question #2	62
Research Question #3	63
Research Question #4	63
Research Question #5	66
Research Question #6.....	66
Summary	67
VI. DISCUSSION AND IMPLICATIONS.....	69
Theoretical Reflection and Study's Findings.....	70
Vulnerable Population Conceptual Model	70
Review of Literature and Current Study's Findings.....	73
Limitations, Strengths and Recommendations	74
Implications for Nursing Practice	75
Cost Benefit Analysis/Translation for Practice	75
Nursing Practice	75
Significance of the Findings to the DNP Role	76
VII. REFERENCES.....	77
VIII. APPENDICES.....	86
A: Instrument/Survey Used in Study.....	86

	Page
B: IRB Approvals.....	97
C: Informed Consent.....	100
D: Demographic Instrument.....	107
E: Copyright.....	110

TABLES

Table	Page
1. Self-Reported Demographic Characteristics of Adult Low Literacy Patients Phase II (N=286).....	59
2. Baseline Demographic Characteristics of Adults with Low Literacy by Mode of Dissemination of the Healthcare Providers and Systems Survey (HCAHPS) (N=286)	61

FIGURES

FIGURE	Page
1. The Vulnerable Population Conceptual Model	23
2. Integration and interrelationship of concepts of the Vulnerable Population Conceptual Model for individuals with low literacy rates.....	25
3. CONSORT Flowchart: Progression of participants in survey dissemination by phone and by mail (eligibility to analysis).....	64
4. CONSORT Flowchart: Progression of participants in survey dissemination by phone and by mail including results with survey return rates and number of completed items.....	65
5. Integration and interrelationship of concepts of the Vulnerable Population Conceptual Model for individuals with low literacy rates in the use and completion.....	72

CHAPTER I

INTRODUCTION

Satisfaction surveys are important for assessing information about a wide range of health care issues (DeBanco, 1996). Surveys are used by hospitals to assess and improve health care and quality of care for patients as well as to maintain competitive posture in their markets (Guadagnino, 2003). While hospitals are facing growing and immense pressures to increase the quality of outcomes, enhance patient safety, and lower the cost of care, these institutions have come to recognize the value of the patient satisfaction survey. This recognition and the wide range of information obtained from surveys may well impact patient outcomes.

Obtaining satisfaction survey data from all patients post discharge is important, yet, for some vulnerable individuals like those with low literacy rates, the ability to obtain adequate and reliable survey information may be lacking. Therefore, for this practice dissertation a ‘feasibility study’ was proposed as a means to obtain data to determine the best mode of survey dissemination (phone or traditional mail) to improve outcomes regarding rates of return and item completions for patients with low literacy at one Southern California Hospital. In this chapter a background of patient satisfaction surveys including agencies integral to the development, implementation and evaluation of health care responses from patient satisfaction is described. Specifically this chapter

introduces the *Hospital Consumer Assessment of Healthcare Providers & Systems Survey* (HCAHPS) providing a discussion of how it relates to a vulnerable population of individuals with low literacy rates. A brief discussion of the need for the feasibility study based on the problem of low literacy is included as well as the specific purpose of the study and research questions addressed. Definitions of key terms, limitation and assumptions integral to the feasibility study are also provided. The chapter concludes with the significance of survey data and health illiteracy to nursing practice.

Background

Patient Satisfaction Survey

In response to requirements from the United States (U.S.) Federal agencies and organizations, hospitals are evaluating health care by responses from patient satisfaction data. These data are eventually used as an indication of hospital quality of health care. The U. S. Department of Health and Human Services (USDHHS) is the U.S. Government's principal agency for protecting health of all Americans and providing essential services, particularly for those who are least able to help themselves (USDHHS, 2011). One U.S. Federal agency is the Centers for Medicare and Medicaid Services (CMS), a part of the USDHHS. The CMS manages the Medicare programs for the elderly and disabled and works with the states to run the Medicaid program for low-income individuals. An important priority for CMS is to assure quality health care for all people in these programs (CMS, 2012a).

Another important organization in assuring that hospitals meet high performance standards and quality health care is the Joint Commission International (Joint Commission International [JCI], 2009). Joint Commission International is a private

sector U.S. based not-for-profit standards setting organization that operates accreditation programs for a fee to subscriber hospitals and other health care organizations. A majority of state governments have come to recognize JCI as a condition of licensure and the receipt of Medicaid reimbursement. Along with many quality initiatives JCI has set goals for national patient safety. Many quality and safety measurements include reporting overall complete patient satisfaction data (Coffey, 2007).

The USDHHS (including CMS) and JCI have declared the provision of safe and effective care of the highest quality as a critical priority in an effort to reduce potential risks and improve clinical quality and outcomes for patients (Larkin, 2007). Quality initiatives were also launched in 2001 to assure quality health care for all Americans through accountability and public disclosure (CMS, 2012a). The quality initiative is intended to empower consumers with quality of care information to make further informed decisions about their healthcare. In March 2008, consumers for the first time were given additional information from Medicare including information about their hospital stay, number of certain elective hospital procedures, and costs covered by Medicare. Today, consumers have three critical elements to consider regarding health care services: (1) quality, (2) patient satisfaction survey information, and (3) cost information for specific procedures to review (CMS, n.d.).

The Agency for Healthcare Research and Quality (AHRQ) is part of USDHHS that supports research designed to improve the outcomes and quality of healthcare, reduces costs, tackles patient safety and medical errors, and broadens access to effective services (USDHHS, AHRQ, 2011a). The measurements and evaluation strategies to promote and improve quality of healthcare are important objectives of AHRQ and CMS.

The AHRQ provides example objectives for developing a community-based patient safety advisory council that includes measuring overall patient satisfaction through data collection via patient satisfaction surveys. Collaborations through organizations such as CMS, USDHHS, JCI, and AHRQ have made important patient satisfaction information accessible to the public. Patient satisfaction surveys produce data about patients' perspectives of care and create objective meaningful comparisons of hospitals on topics, which are informative regarding quality of care. Public reporting enhances public accountability and can stimulate the consumer in efforts to improve quality of care. How well hospitals cared for patients during their stay and the data of the quality of care from patient surveys are available on the website known as Hospital Compare (CMS, 2012b).

Initially, the patient satisfaction survey was first launched by AHRQ in October 1995 and was initially known as Consumer Assessment of Health Plan Survey (CAHPS). The CAHPS was introduced by AHRQ in response to concerns about the lack of high-quality information in health plans from the enrollee's perspective. At that time, numerous public and private organizations collected information on enrollee and patient satisfaction, but the surveys varied from sponsor to sponsor and often changed from year to year (USDHHS, AHRQ, 2012). Over time, the program has expanded beyond its original focus to the current redefined HCAHPS survey, which according to CMS meets the different needs of healthcare services (CMS, 2010).

Implementation of the Hospital Consumer Assessment of Healthcare Providers & Systems Survey-(HCAHPS)

The HCAHPS survey, developed in 2005, was the first nationally standardized

survey that measures how patients perceive the care they receive in hospitals. The survey has three broad goals: (1) to produce data about patients' perspectives of care that allow objective and meaningful comparisons of hospitals on topics that are important to consumers; (2) to create new incentives for hospitals to improve quality of care; and (3) to enhance accountability in health care by increasing transparency of the quality of hospital care provided in return for the public investment (CMS, 2010). The rigorous development of the HCAHPS survey included the following scientific process: (a) a public call for measure, (b) review of literature; (c) cognitive interviews based on consumer focus groups; (d) stakeholder input; (e) a three-state pilot test; (f) extensive psychometric analyses; (g) consumer testing; and (h) numerous small-scale field tests (CMS, 2012c). In addition, three separate opportunities for the public to comment on the HCAHPS survey were provided by CMS, resulting in more than 1000 public comments. The intent of the survey is to inform hospital administration, caregivers, and others about patients' opinion regarding their hospital care. Currently, the HCAHPS survey has approved a list of vendors for organizations, which have met participation requirements and are proficient to administer the HCAHPS survey. While many hospitals have collected patient satisfaction surveys for internal use, the HCAHPS survey is now a mandated survey for hospitals to receive payment and to meet the three broad goals shaped by CMS (Matos, 2011).

Besides obtaining information about patient satisfaction via survey data, an additional incentive was created for acute care hospitals to participate in the HCAHPS survey process by the Deficit Reduction Act of 2005 (CMS, 2009). The incentive for the acute care hospitals has been in place since July 2007 which allows any acute care

hospital to receive their full ‘inpatient prospective payments system’ (IPPS) annual payment update provided the hospital collects and submits HCAHPS survey data. The IPPS is a system of payment for the operating costs of acute care hospital inpatient stays under Medicare Part A (Hospital Insurance) based on prospectively set rates (CMS, 2009). The IPPS is a system for hospitals to provide more cost efficient management of health care. Under IPPS, hospitals are paid a pre-determined rate for each Medicare admission. Hospitals with IPPS, who fall short of reporting the required quality measures, including the HCAHPS patient perspective surveys, may receive an annual payment update that is reduced by two percentage points (Studer, Robinson, & Cook, 2010). Participation in the HCAHPS survey is voluntary for non-IPPS hospitals, such as Critical Access Hospitals. Hospitals implement the HCAHPS survey under the support of the Hospital Quality Alliance (HQA), a private and public partnership that includes: (1) major hospitals and medical associations; (2) consumer groups; (3) measurement and accrediting bodies; (4) government; (5) and other groups that share an interest in improving hospital quality and fully endorses the HCAHPS (CMS, 2012c).

In the past, quality outcomes, patient safety, and lowering the cost of care have taken center stage over patient satisfaction. With new initiatives and disclosures from AHRQ, CMS, USDHHS, the use of the HCAHPS survey and the requirement to fulfill accreditation requirements of health plans and provisions from JCI, patient satisfaction has now taken the center stage in assessing healthcare outcomes and quality of care (Reese, 2009, para. 1).

Statement of the Problem

Patient Satisfaction Surveys and Low Literacy

Patient satisfaction responses are important information needed to improve quality and practice, and the appropriate patient satisfaction survey for literacy levels is essential to obtain accurate patient data. Despite its importance, existing surveys frequently use technical terminology written in 10th grade or above reading levels while average reading level has been reported at 6th grade or less even in high school graduates (Avis, Bond, & Arthur, 1995). The experience of patient satisfaction is important feedback for hospitals and Federal agencies. Illiteracy and dissemination becomes an important factor to consider when measuring the experience of patients while in the hospital setting. The Institute of Medicine (IOM) and the *Healthy People 2010* document's definition of health literacy are similar, "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions" (Baker, 2006, p. 878). Consequently, if health literacy is not considered, patient satisfaction surveys could be denying patients the opportunity to have their opinions included in the planning and evaluation of health care services (Avis et al., 1995). Given the importance of appropriate patient satisfaction surveys and studies demonstrating that more than 90 million adults in the United States have poor literacy (Berkman et al., 2004), the need to find an appropriate modified literacy satisfaction survey becomes significant and obligatory to clinical practice.

Health literacy is increasingly important to help people navigate through a difficult health care system. Furthermore, individuals that lack health literacy have shown to significantly impact the cost of health care. Health care costs due to low health

literacy were about \$73 billion in 1998 including an estimated \$30 billion for the population that is functionally illiterate plus \$43 billion for the population that is marginally literate (National Network of Libraries of Medicine, 2011).

Another issue to consider regarding health literacy is the aging population within the U.S. Recent reports have found that nearly half of the elderly population in the U.S. has low reading skills and reading ability seems to further decline with age (Parker, 2000). In one early study conducted at a public hospital of patients aged 60 years and older, the researchers found that 81% of the participants could not read and understand basic materials such as prescription labels and appointments (Williams et al., 1995). These findings of low literacy is important, since *Healthy People 2020* the proposed document and framework of the USDHHS emphasize the value of information technology to meet the direct needs of the framework for measures and interventions which are building on current health literacy and health communication efforts (USDHHS, 2012).

Obtaining accurate survey data on the quality of health care received from those who are illiterate may result in important information to improve overall healthcare such as assisting patients to be compliant to treatment. Despite the benefit of survey data in improving healthcare, hospitals serving a vulnerable population of low literacy, frequently encounter many issues regarding follow-up of patient care received including a low return rate of patient satisfaction surveys. A potential reason for the low return rate of surveys among individuals with low literacy rates may be due to the inability to read or understand information on patient satisfaction surveys. Although illiteracy was considered in the development of the HCAHPS survey, reducing the reading level below

that of the 6th grade was determined to compromise essential elements and goals of the survey (USDHHS, AHRQ, 2011b). Thus, the USDHHS noted that for vulnerable populations of individuals with low literacy levels the HCAHPS survey should be disseminated via modalities that ensure patient understanding of the survey such as that by telephone dissemination. As the data obtained from the HCAHPS survey have shown to be extremely valuable in assessing patient's response to quality of care, accurate and reliable information from individuals who are unable to read or are illiterate is warranted requiring some institutions to provide appropriate mode of dissemination that improves outcomes regarding returned surveys and completed items.

Purpose of the Study

The purpose of this feasibility study was to describe and compare the results of dissemination of the HCAHPS survey to adult patients with low literacy post inpatient hospital discharge at one Southern California hospital comparing response rates for two modes of dissemination: (1) mail and (2) telephone with items read and clarification given if requested. Specifically, the study describes the rate of return and number of completed HCAHPS survey items from adults with low literacy who received the survey by mail and by phone dissemination post inpatient hospital discharge and compares differences in the rate of the HCAHPS survey returns and number of completed survey items between the two groups.

Research Questions

This feasibility study was conducted at a hospital in a large city located in Southern California where most of the population is considered 'vulnerable' as noted by illiteracy. The feasibility study answered the following questions:

1. What was the HCAHPS survey rate of returns among adults with low literacy who received the survey by mail post hospital discharge at one Southern California hospital?
2. What was the number of items completed among adults with low literacy who received the survey by mail post hospital discharge at one Southern California hospital?
3. What was the HCAHPS survey rate of return among adults with low literacy who were read the survey by phone post hospital discharge at one Southern California hospital?
4. What was the number of items completed among adults with low literacy who were read the survey by phone post hospital discharge at one Southern California hospital?
5. Were there differences in the overall HCAHPS survey return rate in adults with low literacy level who were disseminated the survey via mail compared to those who were disseminated (read) the survey by phone?
6. Were there differences in the number of completed HCAHPS survey items in adults with low literacy level who were disseminated the survey via mail compared to those who were disseminated (read) the survey by phone?

The need for this feasibility study was warranted given the high percentage of individuals with less than a high-school education serviced by this hospital and due to the current low rate of HCAHPS survey return from patients at this facility post discharge. Of the more than 7300 inpatients cared for at this facility monthly, the average survey Of

the more than 7300 inpatients cared for at this facility monthly, the average survey return rate in some departments is reported to be less than 1%.

HCAHPS Survey Dissemination and the Vulnerable Population –

Background of the Community

This feasibility study was conducted at one Southern California hospital whose patient population compromises a large number of vulnerable adults with low literacy and whose primary service area encompasses five cities and suburbs in the local area. In 2007, this hospital released a ‘Community Needs Assessment’ including important demographic data specific to the population serviced by the facility. The Community Needs Assessment was conducted for the purpose of providing a framework for developing and identifying services and solutions and building the support for the needs identified. The needs assessment was also a primary tool used by many hospitals to establish its community benefit plan and to determine how hospitals will give back to the community in the form of health care and other community services.

According to data assessment, the number of people serviced by the local hospital in 2007 was 612,399 and this number is expected to increase by more than 9% in the next five years (Community Hospital of San Bernardino [CHSB], 2009). Of this population, 34% is made up of children and youth, ages 17 years and less; and 6.5% of the population are senior citizens greater than age 65. Also, the assessment revealed high levels of unemployment and extreme levels of poverty in the major city where the hospital is located. For example, the assessment found that nearly half of the residents in the city live at or below 200% of the Federal poverty level (CHSB, 2009).

The local hospital was found to service individuals of diverse racial/ethnic groups particularly, Hispanic populations. The ethnicity of this major city's service area continues to see a significant growth in Hispanic residents (the majority Spanish speaking) with an increase from 53.1%, 58.1%, and 60.9% during the years 2002, 2005, and 2007 respectively. Within the non-Hispanic ethnic groups, the African American population had a slight increase from 13% in 2002 to 13.3% in 2005 and a decrease to 12.4% in 2007. The remaining population statistics include White (20.2%), Asian (3.8%) and of individuals who reported their ethnicity as other (2.7%) (CHSB, 2009). These trends in the racial/ethnic make-up of families over the last five decades show marked changes in the demographics of families, and these changes often affect health disparities (de Chesnay & Anderson, 2008). Further, while white native-born Americans represent the majority of people with low literacy skills, ethnic minorities groups have been shown to be disproportionately affected by low health literacy (Andrus & Ross, 2002). For example, 41% of Hispanic and 24% of African American were found to have low or basic health literacy compared to 9% of White Americans (Vernon, Trujillo, Rosenbaum, & DeBuono, n.d.).

The assessment findings of this city also found a large number of individuals with less than high school education. For example, of the population age 25 years and over, more than one-third of the population (35.6%) has less than a high school diploma and just over one-fourth of the populations (25.7%) are high school graduates; this equates to 61.3% of the population with inadequate education to compete for higher income jobs (CHSB, 2009). These findings are significant, since adults who had not attended or completed high school, and were not currently enrolled in school often have lower

average health literacy compared to adults with higher levels of education or adults who were currently enrolled in high school. In one study conducted by the National Center for Education Statistics (NCES), approximately 49% of individuals with less than high school education were reported to have 'below' basic literacy level compared to those who were high school graduates (15%), had some college education (5%) or who had obtained a bachelor's degree (3%) (Kutner, Greenberg, Jin, & Paulsen, 2006). Further, the NCES found that adults who spoke only Spanish before starting school had the lowest average health literacy, equivalent to below basic health literacy. Below basic literacy was defined as ranging from being non-literate in English to being able to locate easily identifiable short information, following written information in short documents and/or locating concrete and simple, familiar mathematical information (Kutner et al., 2006).

Based upon the community assessment, the service area for this hospital presents a dichotomy of need denoting disparities in economics and educational indicators and represents a vulnerable population regarding healthcare. The term 'vulnerable population' refers to social groups with increased relative risk or susceptibility to health-related problems and this vulnerability is evident in higher comparative mortality rates, lower life expectancy, reduced access to care, and diminished quality of life compared to non-vulnerable populations (Fineman, 2010). Moreover, low literacy levels have been found to affect health and well-being negatively leading to poor health outcomes. With more than one-third of this hospital's population having less than a high school education, it is important that survey data to assess healthcare information and patient satisfaction is understood by this vulnerable population post hospital discharge. Vulnerability is a multidimensional construct reflecting a convergence of many risk

factors at both the individual and community levels, which influence health and healthcare experiences (Shi, Stevens, Lebrun, Faed, & Tsai, 2008, p. S45). The population who is unable to read or comprehend written information is ‘vulnerable’. Individuals with illiteracy are reported to have poorer health outcomes and increased healthcare costs, as much as four times greater for those clients who read at or below the second-grade level than for the general population (Berkman et al., 2004). Further, clients with documented low literacy are found to have a 52% higher risk of hospital admissions when compared with those with functional literacy, even after controlling for age, social and economic factors, and self-reported health (Baker et al., 2002). Therefore, the importance of collecting accurate data on healthcare experiences post discharge is essential in populations with low literacy levels to ensure that these consumer’s needs are captured and met.

Significance of the Feasibility Study to Clinical Practice

Collecting accurate information on patient satisfaction for a population with low reading levels has the potential to improve quality of safe and effective care. Further, obtaining accurate information on patient satisfaction on this vulnerable population may lead to new strategies to improve quality of care based on specific needs of these consumers of healthcare. Programs funded by Federal, philanthropic, and not-for-profit organizations could be strengthened with requirements for a minimum set of evaluation activity and specific measurements once effective health communication programs are built (USDHHS, 2000). This feasibility study was proposed and conducted to determine an appropriate means of dissemination of the HCAHPS survey to obtain higher return rates with completed items that best captures patient satisfaction information on a

vulnerable population of individuals with low levels of literacy at one Southern California hospital. Specifically, this feasibility study describes and compares two modes of dissemination, mail dissemination and telephone dissemination augmented by providing item clarity to the survey if needed.

Definition of Key Terms

For the purpose of this feasibility study, the following terms are defined to provide the reader with an understanding of key concepts used in this feasibility study:

Literacy is theoretically defined as the ability to read and write. Literacy is the ability to create and communicate meaning from and by the use of a variety of socially contextual symbols. Within various levels of developmental ability, a literate person can derive and convey meaning as it is more than just reading and writing which is important but the ability to ‘understand’ (Petinelli, 2011).

For this feasibility study, literacy is operationally defined according to self-reported information on a demographic instrument that includes ‘highest grade completed in school’ and will denote those individuals with an education of less than grade 12.

Patient satisfaction is theoretically defined as the degree to which the individual regards the health care service or product or the manner in which it is delivered by the provider as useful, effective, or beneficial (Patient Satisfaction, 2012). Another definition of patient satisfaction is how patients value and regard their care (Blumenthal, 1996).

For this feasibility study, patient satisfaction was operationally defined from information obtained from a vulnerable population recently discharged from the hospital

using the HCAHPS survey in English and Spanish by one of two collection methods, via mail and via telephone augmented by reading and clarification.

Limitations, Assumptions, and Controls

Limitations

This feasibility study was limited by the inability to know the patient's true literacy level (ability to read and understand and obtain 'meaning' from the HCAHPS survey). A demographic instrument was developed by the study manager/researcher (author) of this paper to assess information regarding the individual's highest level of education. While level of education in this feasibility study serves as a proxy for literacy, the true literacy level of the individual as determined by reading, writing and understanding the HCAHPS survey was not known.

The feasibility study was also limited in 'changing' the HCAHPS survey because the survey was originally developed to meet the guidelines for hospital reimbursement and data analysis by Federal agencies. Those with low literacy skills may be unable to read pamphlets, booklets, directions, or explanations and therefore it is recommended that the HCAHPS survey be 'read' to those who are unable to read.

The HCAHPS survey return rate may be a result of numerous factors. Previous studies have shown that racial/ethnic minorities and individuals of lower socio-economic status often respond less frequently to surveys compared to whites or individuals of higher socio-economic status (Lasek, Barkley, Harper, & Rosenthal, 1997). Thus, additional factors such as socio-economic status were unknown and not considered in this study that focused on literacy level as defined by educational level of less than 12th grade.

The findings therefore are limited to the variables of study, that of literacy as defined by educational level.

For the purpose of this feasibility study, data were collected to describe the rate of return and number of completed survey items from two specific groups: Group 1 was initially mailed the HCAHPS survey and no additional follow-up was provided; and Group 2 who had the survey disseminated via telephone augmented with reading and item clarity, if needed. The purpose of mail dissemination while providing one group telephone dissemination with reading and item clarity was to provide a comparison in an attempt to determine if there was a difference in dissemination and follow-up modes with regards to rate of the HCAHPS survey returns and items completed. This feasibility study was limited to convenience sampling of one hospital located in the major city of the feasibility study implementation and may not reflect the findings of other institutions.

Assumptions

The following assumptions were made regarding this feasibility study:

(1). Educational level as self-reported by the participants of the feasibility study would serve as a proxy for literacy level and individuals with less than high school education are assumed to have low literacy.

(2). Individuals with low literacy rates were unable to read and understand the HCAHPS survey and thus, the rate of survey return is low and the number of completed items on the survey are low when the survey is disseminated via mail compared to dissemination via telephone augmented by reading and clarifying survey items.

(3). Reading and clarifying items on the HCAHPS survey to individuals would provide higher return rates and survey item completion among individuals with low

literacy compared to standard dissemination via mail without reading or clarification of the survey.

(4). Patients who are able to understand and complete the HCAHPS survey provide information that can aid in improving the quality of healthcare.

An additional assumption was made prior to conduction of the study that when patients are read and understand the survey they may be more willing to participate in the survey process. Further assumed were those same patients with low literacy level will be satisfied knowing they are able to understand a survey and may be more willing to participate in the survey process.

Controls

This feasibility study describes the rate of return and number of completed HCAHPS survey items for two groups of vulnerable patients with low literacy levels who were read and clarified the HCAHPS survey via telephone versus those who were mailed the survey using standard traditional dissemination. This was a feasibility study with an experimental design using a comparison group (control) and significant controls including protocols to avoid bias in the findings. For the purpose of this study, the mail dissemination group served as the controls. Participants of the study were also randomly assigned to the two dissemination groups to avoid error that can affect intrinsic factors (e.g. age) that could also impact the findings. Protocols and constancy of conditions were also employed to prevent extraneous factors from affecting the outcome. Special training was provided to volunteer nurses who assisted in the feasibility study regarding the intake of the demographic instrument to ensure constancy of conditions. There was one

individual who disseminated the survey via telephone where ‘control’ in avoiding error in communicating correct HCAHPS information was integral to the study.

For this feasibility study, the same HCAHPS survey was given to all participants regardless of mode of dissemination during the same time periods. This author conducted the feasibility study including dissemination of all surveys regardless of modalities. Specific controls were implemented for the dissemination of the HCAHPS survey for one group of patients based on ‘standard’ distribution and collection of the survey by the institution using institutional protocols. Few controls however, were implemented on survey dissemination for the group of patients who were ‘read’ the survey via telephone dissemination. For this group, individuals were contacted via telephone and provided reading and clarification, if needed on the survey items based on individual needs and requests. In contrast, dissemination of the surveys to the individuals in the control group who were not ‘read’ or provided clarification were distributed via mail. More information regarding controls for this feasibility study is discussed in the Method’s section.

Summary

Assessing customer satisfaction has played an important role in numerous organizations to measure consumers’ expectations and satisfaction. In the healthcare sector, patient satisfaction is an important indicator for measuring patients’ expectation and satisfaction of their hospital experiences. Further satisfaction survey results can provide a method to measure the quality of health care and an incentive for hospitals to improve quality of care. Patient satisfaction is related to the improvement of health status and is an increasingly useful measure for patterns of communication such as the success

of giving information, involving the patient in decisions about care, and of reassurance (Fitzpatrick, 1991). While surveys such as the HCAHPS survey provide a means to assess patient's perspectives of hospital care, this survey as well as others may not be useful to individuals who are illiterate or unable to read and is merely mailed to patients without clarity. Using different methods to collect patient's experiences post hospital discharge may provide a means to obtain complete and accurate information from individuals who are illiterate and vulnerable. A need for an appropriate method to provide a patient satisfaction survey while providing clarity for the low literacy individuals is needed to provide a means so the vulnerable population can give feedback on how better to improve outcomes

CHAPTER II

THEORETICAL FRAMEWORK/PERSPECTIVE

Vulnerable populations are defined as those individuals and populations at risk for poor physical, psychological or social health (Aday, 1993). Vulnerability is multidimensional construct reflecting a convergence of many risk factors at both the individual and community levels, which influence health and healthcare experiences (Shi et al., 2008, p. S45). Illiteracy may be considered a risk factor leading to vulnerability since many individuals who are unable to read or write also have poorer health outcomes, higher risk of hospital admissions and increased healthcare costs compared to individuals who are literate (Baker et al., 2002). Satisfaction surveys such as the HCAHPS, provides a means for patients to provide hospitals with feedback regarding their hospital experiences, perceived quality of care and overall hospital and management of care satisfaction. Information obtained from these surveys may be useful in improving healthcare outcomes for individuals who are illiterate and vulnerable. Many surveys, including the HCAHPS surveys were developed at reading levels that may not be readable or understood by all patients, particularly those who are illiterate and vulnerable.

The purpose of this feasibility study was to describe the results of dissemination of the HCAHPS surveys to adult patients post hospital discharge using two different modes: (1) traditional mail dissemination and return; versus (2) dissemination via telephone augmented with reading and clarification, if needed from a vulnerable population with high rates of illiteracy in a Southern California hospital.

This chapter contains information on Flaskerud and Winslow's "Vulnerable Population Conceptual Model (VPCM)", the theoretical model used to guide this feasibility study. Specific concepts of the VPCM are defined and the relationship of the concepts to meet the study's purpose is discussed.

Vulnerable Population Conceptual Model (VPCM)

The Vulnerable Population Model by Flaskerud and Winslow is a "population based model that focuses on the collective health status of the individual and its community" (Flaskerud & Winslow, 1998). The VPCM describes the community's responsibility to the population regarding the conditions required for healthy living and reduction of disease vulnerability (Saunders, 2007). The model contains three important concepts: (1) resource availability; (2) relative risk; and (3) health status (Flaskerud & Winslow, 1998) (Figure 1).

The first concept under the VPCM model is 'resource availability' which refers to societal and environmental resources. In this model, societal resources include human capital such as personal income, jobs, education, housing, health insurance, social status (power) and social connection (integration into society, social networks). The environmental resources of the model include health care access and quality (Flaskerud & Winslow, 1998).

The second concept of the VPCM model is 'relative risk' compared to those without or less risk factors. Relative risk is conceptualized in the VPCM as the ratio of the risk of poor health among groups having fewer resources and exposed to fewer risk factors (Aday, 1993). Risk factors may be behavioral (e.g. lifestyle choices; availability, access to, and use or nonuse of screening procedures and health promotion services;

exposure to violence and abuse) or biological (e.g. physiological and genetic predisposition).

The third important concept is health status. According to the model, health status is a result of the increased exposure to risk factors leading to higher rates of morbidity and mortality (Flaskerud & Winslow, 1998). These three concepts, availability of resources, risk factors and health status are interrelated (see Figure 1).

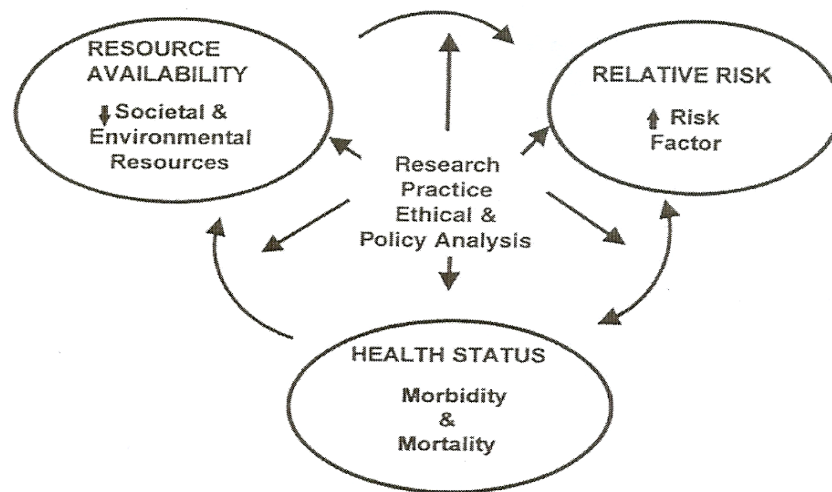


Figure 1. The vulnerable population conceptual model including the three interrelated concepts of the model: resource availability, relative risk and health status by J. Flaskerud and B. Winslow, 1998, *Nursing Research*, 47, p. 70. Copyright 2011 by Wolters Kluwer Health (See Appendix E).

Adequate resources such as access to care, personal income and education are needed to maintain health and the lack of available resource from the society or the environment results in increased ‘risks’. Risk factors increase the potential for poor health and disease and the exposure to risk factors frequently exacerbate the health status of individuals in the community. Consequently, poor health status and frequent exposure to risk factors affects the need for resource availability (e.g. more income, access to care)

and often the constant exposure to risk factors and poor health may deplete the availability of resources (e.g. personal income).

VPCM - Use in HCAHPS Dissemination

The VPCM is an appropriate model to use to guide this feasibility study regarding HCAHPS dissemination among adults with low literacy well. Healthcare providers have an obligation to ensure patient satisfaction surveys are aligned with the literacy skills and delivery preferences of the patients. The importance of assessing accurate patient satisfaction information is directly linked to providing incentives for hospitals to improve quality of care from the government. In addition, responses from hospital surveys can be of vital importance to nursing practice as the feedback obtained from the surveys assists in meeting the specific needs of the population while considering their cultural and personal desires as well as the literacy skills and delivery preferences. Accuracy of the survey information is integral in determining what issues best represent the population; therefore patients must have ‘health literacy’ regarding HCAHPS or healthcare providers must provide strategies to assist patients in reading and comprehending the survey. Individuals with low literacy levels may not be able to read or understand the meaning of survey items. Without an understandable survey for individuals with low literacy, this vulnerable patient’s view regarding quality of hospital care received may not be obtained or if obtained the information may lack validity.

All three concepts of the VPCM were used to guide this feasibility study. In particular for this study, the concept of ‘resource availability’ was adapted from the model to denote the importance of the HCAHPS survey as a resource measure in the overall integration of the other concepts of the model regarding relative risk and health

status among a vulnerable population with high rates of illiteracy receiving care at one Southern California hospital (see Figure 2).

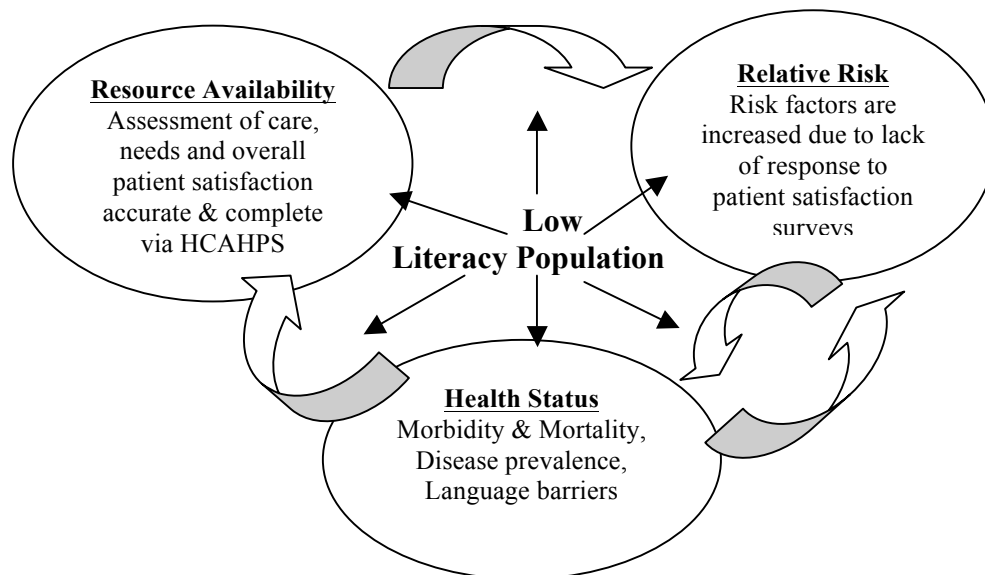


Figure 2. Integration and Inter-relationship of Concepts of the Vulnerable Population Conceptual Model for Individuals with Low Literacy Rates in the Use and Completion of the Hospital Consumer Assessment of Healthcare Providers and Systems Survey. Adapted from ‘The Vulnerable Population Conceptual Model’ by J. Flaskerud and B. Winslow, 1998, *Nursing Research*, 47, p. 70. Copyright 2011 by Wolters Kluwer Health, (including the three interrelated concepts of the model: resource availability, relative risk and health status).

The VPCM’s concept of resource availability regarding the HCAHPS survey is an essential component of obtaining data about this vulnerable patient’s perception and experience of hospital care and perceived quality care post discharge. Lack of limited data from this vulnerable population has potential to impact overall health status and health outcomes, the two other concepts related to the VPCM. As previously noted, individuals who are unable to read or write (illiterate) have been found to have poorer health outcomes, higher risk of hospital admissions and increased healthcare costs compared to individuals who were literate (Baker et al., 2002).

The inability to comprehend written information, understand verbally communicated medical instructions and articulate health concerns to health care professionals makes it difficult, and sometimes impossible, for low literate adults to obtain the care that they need through the use of available societal or environmental resources (Bennett, 2003). Further, the inability to read and respond to the HCAHPS survey may not enable this vulnerable population to adequately express their perceived health care issues and concerns post hospital discharge that may be specific to their overall health care. This inability to express their health care needs may further impact this vulnerable population's relative risk for poor health outcomes in the future, consequently affecting their overall health status. In addition, the lack of societal or environmental resources, increased risk and the potential for poor health outcomes as a result of low literacy levels are interrelated. The inability of this population to adequately use and comprehend resources including the HCAHPS survey may impact life-choices including access to care and utilization of healthcare services, increasing their risk for disease and potentially affecting health outcomes.

For this feasibility study, the dissemination of the HCAHPS survey was provided to a vulnerable population of patients with low literacy level who received care at a designated hospital using one of two dissemination modes; (1) standard (mail) or (2) phone. The mode of phone dissemination providing item clarity is important since a single-mode delivering method such as that of mail may not satisfy different populations, particularly those who are unable to read. Therefore, to determine the best dissemination mode for this vulnerable population, the study incorporated two interventions, phone and mail (control) to determine which mode best improved outcomes. The feasibility study

has the potential to identify the best mode that leads to higher rates of survey returns and completed items among this vulnerable group. These data are important for hospitals to better understand the needs of the community. The overall future impact is to provide quality care, reduce risks and improve the health status of this vulnerable population, important concepts noted in the VPCM model.

Summary

Individuals with low literacy rates are considered a vulnerable population. Inadequate resources, increased risks and poor health outcomes, concepts of the VPCM frequently occur among individuals with low literacy rates. It is important to obtain information on individuals with low literacy post hospital discharge in order to improve overall health outcomes, decrease risks and to continually provide available resources based on the population's needs. Reliable measures to assess accurate patient's viewpoint of health care have can lead to strategies that improve care delivery and patient outcomes based upon population's needs and interests. In order to evaluate the care and overall effectiveness of patient's hospitalization, patients must complete and return HCAHPS. For some, particularly those with low literacy levels, health literacy or understanding of the HCAHPS must be present in order that successful item completion and survey return can occur. This feasibility study provided a means to evaluate if the type of dissemination (phone or mail) improves survey return rate and completed items survey.

CHAPTER III

REVIEW OF LITERATURE

The purpose of this feasibility study was to describe the results of dissemination of the HCAHPS survey to adult patients with low level of literacy post hospital discharge using one of two different modes of dissemination: (1) mail or (2) phone with reading and item clarification at one Southern California hospital. Both the mail and phone dissemination of the HCAHPS were approved modes by the CMS (CMS, 2010). However, at one California hospital (focus of this feasibility study), dissemination of the survey is frequently given to individuals via mail without knowledge of the individual's literacy level. Low rates of return as well as incomplete surveys have frequently occurred at this hospital. The intent of the feasibility study was to disseminate the survey to individuals with low level literacy using both of these modes in order to determine the best possible means to achieve high rates of returns and item completion regarding patients perspective of health and quality of care post hospital discharge.

This chapter provides a review of the literature to support the need and purpose of the feasibility study. Specifically, this chapter provides conceptual and empirical literature reviews on the following: (a) HCAHPS patient survey (b) illiteracy and healthcare (c) illiteracy and survey data, and (d) illiteracy and healthcare survey data.

Overview and Description of the HCAHPS

The HCAHPS is a survey that provides a national standard for collecting and publicly reporting information about patients' perspectives on hospital care. The survey

is designed to produce data about patients' perspective of care that enables objective and meaningful comparisons of hospitals on topics that are important to consumers (Sofaer, Crofton, Goldstein, Hoy, & Crabb, 2005). Results from the HCAHPS survey can also be used by hospitals to impact quality, and outcomes for patients and consumers of care. For example, the results of the HCAHPS survey are publicly reported on the CMS Hospital Compare website which is intended to encourage patient's option, provider responsibility, and generate patient viewpoint driven hospital performance incentive (Abt Associates Inc., 2005). Data from the HCAHPS survey also serve as a means of empowerment for the patient to select the appropriate hospital based on true comparisons. Further, hospitals that are subject to IPPS provisions must meet the reporting requirements of the HCAHPS survey in order to receive their full IPPS annual payment (CMS, 2007). IPPS hospitals that fail to report the required quality measures including the HCAHPS patient perspective survey, could receive a 2% reduced payment (Giordano, Elliott, Goldstein, Lehrman, Spencer, 2010). This is a goal for CMS by using the HCAHPS survey data to establish funds for hospital services provided to the Medicare patient population. Consequently, this would make the HCAHPS survey suitable to be used for performance-based reimbursement.

The scope of the HCAHPS survey is a focus on quality of care. The survey queries care and quality that centers on six summary measures: (1) how well physicians and nurses communicate with patients, (2) responsiveness of the hospital staff to patient's needs, (3) pain management, (4) how well the staff communicates with the patient about medications (5) cleanliness and composure of the facility environment, and (6) pertinent

information provided at discharge (CMS, 2010). The HCAHPS survey consists of 27-items including specific questions on the six summary measures, items for global rating, overall rating of the hospital, and whether the patient would recommend the hospital to others. Some of the items on the survey consist of 4-point *Likert* scale questions with selection of responses as: 1= ‘never’, 2= ‘sometimes’, 3= ‘usually’ and 4= ‘always’ regarding many of the summary measures (Appendix A). Additionally, patient’s overall rating of the hospital are queried and measured using an ordinal scale measured from 0-10 with 0=worst and 10=best regarding the patient’s hospital experiences.

The process development of the HCAHPS survey entailed rigorous scientific research, consumer and field testing, consumer focus groups, stakeholder input, three-state pilot test and numerous opportunities for public comment (CAHPS II Investigators & AHRQ, 2003). For example, in one study the researchers interviewed 16 focus groups of individuals at one of four cities who were recently hospitalized or had a loved one hospitalized to guide the development of the HCAHPS survey. In this study, the researchers identified a wide range of features by participants, which involved domains and items of the HCAHPS survey including communication from healthcare providers and nurses, respect, companion, kindness and hospital cleanliness. Effective communication was identified as the most important and valued feature by the participants, particularly regarding ‘understanding’ and ‘explanation’ of information and physicians ‘listening’ to patients. The researchers concluded that the very high proportion of the items being considered for the HCAHPS survey were deemed important to the study’s participants so far as that these individuals would consider changing hospitals for a favorable response to this information (Sofaer et al., 2005).

Illiteracy was considered in the development of the HCAHPS survey however, reducing the reading level below that of the 6th grade was determined to compromise essential elements and goals of the survey (USDHHS, AHRQ, 2011b). The CAPS II Investigators and the AHRQ (2003) analyzed the pilot test findings for the CAHPS based on rigorous testing for reliability and validity based on the development of the survey at the 6th grade reading level. The CAHPS was tested as a three state pilot with approximately 19,720 patients who were discharged from the hospital. Besides the testing of the survey for reliability and validity, a rigorous, multi-step process of the CAHPS hospital survey was implemented which included public awareness of measures and several Federal Register notifications requesting public contributions. The researchers concluded the CAHPS survey is a basic set of questions that can be given as a ‘stand-alone questionnaire’ (CAHPS II Investigators & AHRQ, 2003).

The HCAHPS has been tested and determined to be reliable and valid (CAHPS II Investigators & AHRQ, 2003). The timing of the administration and dissemination of the survey is also important. According to the guidelines by CMS, the HCAHPS survey must be administered 48 hours to 6 weeks after discharge to eligible acute care hospital patients excluding patients receiving psychiatric care via one of four methods: (1) mail only (2) telephone only, (3) mixed (mail with telephone follow-up) or (4) active interactive voice response (IVR) (CMS, 2003). The typical administration of the HCAHPS survey uses any of the following methods of dissemination: (a) mailed survey followed three weeks later by a second wave mailed survey to non-responders, (b) telephone with up to five phone call attempts to patients, (c) mail with telephone are the first wave of a mailed survey followed by up to five phone call attempts to reach non-

responders, or (d) active IVR is a telephone survey in which a live operator attempts to reach a patient with five phone call attempts (Fleming, 2008). Survey dissemination cannot be disseminated to patients while in the hospital.

Illiteracy and Healthcare

Adult illiteracy is a major issue in the state of California that is the focus of this feasibility study. The United States Education Department's National Center for Education Statistics reports that approximately 23.0% of individuals 16 years of age and older lacked prose literacy skills for the state of California for the year 2003 compared to the National average of 14.5%. In Los Angeles County, the percentage is even higher with approximately 33.0% of the population 16 and older lacking literacy skills (Kutner et al., 2006).

In one analysis by Paasche-Orlow, Parker, Gazmararian, Nielsen-Bohlman, and Rudd (2005), the researchers reviewed 85 studies between 1963 and 2004 regarding health literacy in the U.S. In this systematic review, they found that limited health literacy was prevalent in the U.S. and that the prevalence was associated with education, ethnicity and age, indicating a significant health disparity for the country. The researchers concluded that simplification of health services and improving health education is essential for individuals with limited health literacy in order to change and improve the health of all Americans (Paasche-Orlow et al., 2005).

Health services and health education are important resources, yet studies have found that many patients are unable to read or understand basic healthcare materials. For example, in one study of 2659 patients conducted at two urban public hospitals, the researchers found that 1106 patients (41.6%) were unable to understand basic directions

such as taking medications on an empty stomach, 691 (26.0%) were unable to understand information such as when the next appointment is scheduled, and 1582 (59.5%) could not understand a standard document such as informed consent appointments (Williams et al., 1995).

Illiteracy and Survey Data

Few studies have been published that assessed the adequacy and accuracy of survey data in patients with low levels of literacy. In one study by Al-Tayyib, Rogers, Gribble, Villarroel, and Turner, (2002) the researchers compared the effects of low medical literacy of 1014 adults in Baltimore using two health instruments, the Baltimore Sexually Transmitted Disease Survey and the Behavioral survey. Data collection for the surveys was based on randomly assigning individuals to two different types of survey methods: (1) audio computer-assisted self interview (ACASI) whereby the respondent listens to the recorded questions and the defined response categories through headphones or (2) computer-assisted personal interview (CAPI). Self-administered paper questionnaires were also provided for sensitive questions. In this study the paid 'Rapid Estimate of Adult Literacy in Medicine' (REALM) was also used as a measure to identify patients who may need special attention with health care instructions because of low literacy. The REALM measures a respondent's ability to read and correctly pronounce 66 common medical terms. Scores on the REALM are collapsed into 4 reading grade range estimates: (1) grade 3 and below, (2) grades 4 through 6, (3) grades 7 through 8, and (4) grade 9 and above. Of the 1014 adults who completed the survey, 992 also completed the REALM instrument. The researchers found that approximately 28.0% of the adults aged 18 to 45 years who participated in the study had literacy levels at grade 8

or below and 12.0% had a level at grade 6 or below. The results also revealed that persons with low medical literacy provided answers on paper self-administered questionnaires (SAQ) and often their responses are to questions they do not completely understand. The researchers concluded that the findings provide important evidence for the potential benefits of an 'interview' such as audio computer-assisted self-interviewing technologies when obtaining survey data, as this method does not require respondent literacy (Al-Tayyib et al., 2002).

Illiteracy and Health Care Assessment via Survey Data

Patient satisfaction has become an increasingly important parameter in measuring the quality of healthcare (Sitzia & Wood, 1997). However, it is important that the survey to measure this information obtains accurate information particularly when individuals have low levels of literacy. Studies on health care surveys for individuals who are illiterate are few in number. In one study, Shea et al (2008) adapted and compared three formats to assess patient satisfaction instrument for low literate and Spanish-speaking populations. The study initially obtained data from 2015 adults awaiting primary care using various surveys including CAHPS in one of three formats: print, illustrated or interactive voice. Further, data collection was conducted on a second sample of 4800 patients who were randomized to receive alternative formats of the survey. Results of the study showed that response rates for the illustrated and printed versions of the CAHPS survey were higher (31.3% and 30.4% respectively) compared to the interactive voice format (18.1%). The results of the illustrated format were similar to the text version and required a bit more time to complete by the low and high literacy population. The researchers found that while extensive measures were used to develop tailored surveys

for individuals with limited literacy, there were no consistent advantages to either of the alternative formats. They suggested that further studies were needed as repeating the study in other areas might result differently since no consistency was determined in this study (Shea et al 2008).

Effective strategies to enhance patient's understanding of healthcare information are warranted for individuals with low level literacy. In a study by Bickmore, Pfeifer, and Paasche-Orlow, (2009) the researchers evaluated the use of computer agents to explain medical documents as one strategy to improve understanding of complex healthcare information to patients with low health literacy. As part of this randomized trial study, explanation of the research consent form by the computer agent was compared to explanation by a human and a self-study condition. The study examined complex documents that are difficult to understand and are frequently presented to patients. Participants were mostly minority adults age 18 and older, and English speaking females. The REALM was used to establish health literacy. The study defined health literacy as limited at the reading level of 8th grade and below and 'sufficient' at 9th grade and above. Results of the study found that 13 (45%) of the participants had inadequate health literacy. Clarifying information was shown to be an important factor for individuals with low literacy level. The researchers concluded that regardless of health literacy, participants were more likely to sign the consent form when it was clarified by the computer agent. Participants with 'sufficient' health literacy showed the highest level understanding of the computer agent-based clarification. Overall, limited health literacy participants displayed poor comprehension levels in all areas of the study conditions (Bickmore et al., 2009).

Summary

The HCAHPS survey is an important instrument for measuring patient satisfaction regarding important indicators of quality in health care. The survey however, was developed for individuals with reading levels of 6th grade or higher and thus, may lack the ability to accurately obtain data from individuals with low levels of literacy. Patients with low literacy may be unreachable through conventional text-based instruments. Implementing appropriate measures to obtain information on patient's hospitalized experiences is important for individuals with low levels of literacy so that accurate and valid information can be obtained. Studies have found that simplifying the language of written material can improve the clarity of any survey and providing the appropriate survey will enhance and improve response rates and accessibility for low literacy populations. This feasibility study describes and compares the results of dissemination of the HCAHPS survey to adult patients post hospital discharge using two different dissemination modes in order to assess the appropriate means in obtaining data from individuals who are illiterate. Providing a suitable means of dissemination to the survey to meet the needs of the 'vulnerable' population should be the priority and commitment of all health care providers in a pursuit to improve quality of care and outcomes.

Since the HCAHPS survey provides a means to detect the patient's perception of quality of care, illiteracy becomes an important factor to consider and some approaches to measuring patient satisfaction surveys may not be valid when reviewing the experiences of patients who are illiterate. While the data obtained from the HCAHPS survey have shown to be extremely valuable in assessing patient's response to quality of care, the

need to obtain accurate and reliable HCAHPS survey information from individuals who are unable to read or are illiterate is warranted.

CHAPTER IV

METHODS

The relationship between literacy and health is intertwined. Without health literacy, patients often lack the ability to negotiate complex health care systems or understand healthcare directions including those which may be life threatening. Health literacy requires patients to have a complex group of reading, listening, analytical, and decision-making skills, as well as the ability to apply these skills to health situations (National Network of Libraries of Medicine, 2011). Health literacy can impact patient outcomes which leads the way in measuring the effectiveness of health care. Patient outcomes are also associated with satisfactions surveys, particularly data from the HCAHPS survey and health literacy is integral to valid survey outcome data.

While assessment of patient satisfaction through survey data is important for patient outcomes and quality of care, survey data from individuals with low levels of literacy may be inaccurate or incomplete due to the individual's inability to read or understand the information within the survey. Whereas, the HCAHPS survey in particular was developed for individuals with a reading level of grade six and over, researchers have found that adults who had not attended or completed high school, and were not currently enrolled in school often have lower average health literacy compared to adults with higher levels of education or adults who were currently enrolled in high school. Furthermore, according to one national study, 49% of individuals with less than

those who were high school graduates (15%), had some college education (5%) or who had obtained a bachelor's degree (3%) (Kutner et al., 2006).

To assess the HCAHPS survey completion among individuals with low literacy levels, a feasibility study was conducted with the purposes of describing and comparing the rate of return, and number of survey items completed using two different modes of survey dissemination (mail versus reading and item clarification via telephone dissemination), for patients discharged at a local Southern California hospital. The need for this feasibility study was warranted due to the low rate of survey returns from patients and the high percentage of individuals with low educational levels serviced at one Southern California hospital. Currently, the hospital provides care to an average daily census of 245 patients and approximately 89,000 patients yearly occupy beds (approximately 7300 monthly), at this facility. Despite the high number of inpatients at this facility, the average monthly HCAHPS return rate is approximately 70/7300 which is less than 1% in some departments. In addition, the population serviced by this facility is considered a vulnerable population due to high rates of unemployment and poverty and low levels of education with approximately 60% of the residents having a high school education or less of which one-third of these individuals did not complete high school.

This chapter describes the methods to implement the feasibility study and to accomplish the study's purpose. Specifically, this chapter explains the design sample, intervention/instrument, data collection method and data analysis that will be used to conduct the feasibility study.

Methodology of the Feasibility Study

Design

This feasibility study was conducted by means of descriptive, comparative research methods using an experimental design. The purpose of the study was to describe and compare the rate of return, and number of completed HCAHPS survey items obtained by one of two different modes of dissemination. The two different modes of dissemination were (mailing of the survey or telephone with follow-up reading/clarification of the survey items, if needed) from patients with low literacy levels who were discharged from one Southern California hospital.

Descriptive comparative methods are frequently used in research to “observe, describe, and document aspects of a situation as it naturally occurs” and/or to make comparisons between two or more groups, thus, this method was suitable for the feasibility study (Polit & Beck, 2011). While this is a descriptive comparative study it is also one of an experimental design utilizing all of the required elements for this design including: (1) an intervention; (2) controls including control group and control of intrinsic and extraneous factors and (3) randomization. For this study, the intervention consisted of dissemination of the HCAHPS by phone, and this mode of dissemination was compared to that of the traditional dissemination mode used in the targeted facility, mail (control). Additional control measures were implemented to enable constancy of the groups to avoid bias and error due to extraneous factors. Participants were randomly assigned to receive the HCAHPS from either the mail mode of dissemination or phone mode of dissemination. Thus, this mechanism of rigor in this study enables

a ‘cause and effect’ regarding the type of dissemination and its effects on rate of return and item completion.

The methodology for this feasibility study was based upon current national guidelines by the CMS, low return rates of the HCAHP and low literacy levels of patients at this one Southern California hospital. According to current national CMS guidelines, the HCAHPS survey can be administered randomly 48 hours to 6 weeks post discharge to patients via one of 4 different modes of dissemination: (1) mail, (2) telephone, (3) mail with telephone follow-up or (4) active interactive voice response (IVR) (CMS, 2009). Current and past modes of dissemination of the HCAHPS surveys by this one Southern California hospital had been conducted using only the mail mode of dissemination to patients post discharge with subsequent low monthly return rates (<1%) in some departments. The rates of HCAHPS surveys are reportable to the consumer. Hospitals must obtain at least 300 completed HCAHPS surveys over the entire 12-month (USDHHS, n.d.). At this facility the current 12-month rate return of post discharged patient hospital surveys was 840 and thus, meets the guidelines for public reporting using ‘Hospital Compare’ and CMS guidelines. While the HCAHPS survey return rate at this facility meets public reporting guidelines, the < 1% return rate is considered low in some departments for this facility and measures toward increasing return rates are needed. In addition higher rates of HCAHPS survey returns have been found in past pilot studies with some studies reporting an overall 40% response rate (CAHPS II Investigators & AHRQ, 2003) warranting the need for this facility to improve outcomes. Further, while the HCAHPS survey has been tested to meet the

needs of patients with low literacy levels at grade 6 or above, the concern for this facility is that the low rate of return may be due to over one-third of the individuals serviced at this facility having less than high-school education and are non-English speaking.

In addition to assessing the rate of return, this study design was conducted to describe and compare the number of completed survey items of the HCAHPS by mode dissemination (mail versus phone). In the past, of those completing the HCAHPS survey at this facility, the number of item's completed varied. Similarly, other reports have shown variation in the number of item completions in patients who return the HCAHPS. Item completion for the HCAHPS surveys has also found to vary nationally. For example, several items on the HCAHPS survey have response rates ranging from 90%-95% of completed surveys (although a few items will not apply to every patient such as pain management) while other response rates for item completion have been as low as 65% for returned completed surveys (Consumer Union, 2010). Little was known at this facility about the overall number of completed items and whether returned rates or number of completed items would improve and be higher if the mode of dissemination would include augmentation of reading and clarification of items by phone to individuals with low literary rates.

Setting

The feasibility study was conducted at a large 343-bed non-profit hospital located in Southern California. For this feasibility study, the 85-bed (three units) medical surgical departments were selected in this hospital because of convenience and accessibility of the patients by the study manager/researcher

(author). The hospital services individuals of all ages, from infancy to geriatrics and from a diverse racial/ethnic background. According to demographic data obtained in 2007, the racial/ethnic make-up of the city serviced by the hospital includes Hispanics (60.9%), non-Hispanic Whites (20.2%), African-Americans (12.4%), Asian (3.8%) and 'other' (2.7%) (CHSB, 2009). In addition, more than one-third (35.6%) of the population age 25 years did not complete high school (less than 12th grade education) and just over one-fourth of the population (25.7%) has successfully graduated high school; this equates to 61.3% of the population with inadequate education to compete for higher income jobs (CHSB, 2009).

Sample

Adults age 18 years and older who were discharged from any of three medical-surgical inpatient units accessible to the study manager were recruited to participate in the study using convenience sampling. Inclusion and exclusion criteria for the study were determined by each of the two phases of the study and the criteria are further described in the procedure section of this chapter.

Ethical Considerations and Institutional Review Board

Approval for this feasibility study was obtained from the Institutional Review Board (IRB) of the selected hospital where the study was conducted and the IRB of the University from which the study manager was obtaining a doctoral degree (Appendix B). All participants of the study were read and completed an informed consent (Appendix C) that included the purpose of the study as it related to describing 'rate of returns and completion of the HCAHPS survey' based on different modes of distributing the survey (rather than informing the patients of the

effect on return survey rates and item completion based upon ‘low literacy’ that might have had a negative impact for patients). The consent contained information regarding the risks and benefits of the study. Specifically all participants were informed that “minimal/no risks and no direct benefits” of participating in the study; however, they were informed that information obtained from the study’s findings might be helpful in how surveys are sent to patients in the future. In addition, all patients were informed that they could also receive an additional HCAHPS survey as part of the hospitals own random sample which could be an ‘inconvenience’.

The informed consent used for this study was developed at a 6th grade reading level so that the participants had the option to read and review the survey if requested. The 6th grade reading level of the consent form was determined by using the Flesch Reading East Test available through *Microsoft Word for Windows, Version 2007*. Confidentiality of all information including the informed consent, demographic instrument, HCAHP and survey data were maintained on all participants throughout the study. Name, address and phone number required for dissemination of the HCAHPS surveys were not included on any of the instruments including the demographic or HCAHPS surveys. A numeric code was used on the demographic instrument to link to a hospital computer database so that retrieval of the patient’s name, address and phone number could be obtained by the study manager/researcher (author) for dissemination of the survey. Only the study manager/researcher (author) had authorization of the information to the database. The study manager/researcher (author) was trained on the ethical considerations and protection of human subjecting including completion of the National Institute of

Health (NIH) Office of Extramural Research and Collaborative Institutional Training Initiative (CITI) for Human and Biomedical Research program for ‘Protection of Human Research Participants’. The author also abided in the protection of human subjects by adhering to the following: Investigative Review Board (IRB) guidelines of the designated institutions; Health Insurance Portability and Accountability Act (HIPAA); and Protected Health Information (PHI).

The assistants also completed similar training in the NIH ‘Protecting Human Research Participants’ and adhered to the guidelines of the institution including HIPAA and PHI. The database, demographic instrument and returned HCAHPS surveys was maintained in a locked safe and secured place accessible only to the study manager/researcher (author) for maintaining confidentiality with review if needed by the appropriate individuals (e.g. hospital IRB, faculty). The hospital database computer system was kept in a locked secured private office on the hospital campus. All information obtained from this study with demographic information will be destroyed upon conclusion of the feasibility study.

Procedure

Three assistants were trained prior to the study by the study manager/researcher (author) on the purpose of the study, use of the demographic instrument, coding and protection of human subjects. In addition, to ensure, each of the assistants were administering the demographic instrument properly, the study manager/researcher (author) monitored the dissemination of the demographic instrument as part of the initial training as a measure of study control so that the demographic data were accurately and similarly obtained to reduce bias.

The study consisted of two phases: Phase I, determination of eligibility of the study via assessment of demographic data; and Phase II: dissemination of the HCAHPS survey to eligible participants using one of the two designated modes of dissemination, mail versus telephone. The specifics of the procedures including sample and inclusion criteria are described based upon each of the 2 phases.

Phase I-Determination of Eligibility

Phase I of the study involved determination of eligibility to participate in the study by assessing inclusion criteria including educational level to determine literacy. Individuals who were adult, (ages 18 years and over) and discharged from the hospital were asked if they would like to voluntarily participate in the feasibility study by first completing a demographic information form (Appendix D, Demographic Instrument). Individuals were excluded if they had mental illness (as noted by the medical record), were unable to complete a survey or answer questions, or unable to speak or write English or Spanish. Those adults patients who agreed to participate, were read questions from the demographic instrument by the study manager/researcher (author) or one of three registered nurses all employed at the current facility (one each unit), trained by the study manager/researcher (author) to obtain demographic data needed to determine eligibility for further inclusion in the study. Translation and interpretation was provided by a professional provider (Cyracom) of over-the-phone interpretation and language services of the hospital.

Demographic instrument. The demographic instrument used for this feasibility study was a survey developed by the study manager/researcher (author) and consisted of six self-reported demographic items: (1) Current Age (continuous data), (2) highest grade

completed in school (education) (continuous level data), (3) race/ethnicity (nominal data) and the (4) languages(s) that the patient feels they speak and read/write well, (5) American or Foreign born (dichotomous data, yes/no); and (6) prior schooling - if attended school in U.S. (dichotomous, yes/no). The six items were all reviewed prior to initiation of the study by two doctoral-prepared academic professors/researchers who determined the validity of the content as important and relevant demographic data for this feasibility study. Only those adult patients who completed the demographic instrument, self-reported an education completion level less than grade 12 and who reported their spoken, written/reading language as English or Spanish met the inclusion criteria for continuation into Phase II of the study, dissemination of the HCAHPS surveys via one of two dissemination modes.

The demographic instrument did not include any identifying patient information (e.g. name, address, phone number). However, for those who met the inclusion criteria for continuation into Phase II of the study (dissemination of the HCAHPS surveys via mail or phone), the name, phone number and address, were coded with a tracking number and inputted and tracked to the hospital's computer data base upon the participant's immediate completion of the demographic survey. This tracking code was known only to the study manager/researcher (author), three data collectors and those essential to the feasibility study (e.g. hospital Institutional Review Board). The tracking system enabled the researchers to obtain the necessary information for dissemination of the HCAHPS surveys to the participants. In addition, data obtained from the demographic instrument was used to describe the demographics characteristics of the study participants including age, ethnicity,

educational status, language, American/foreign born, and if attended school in U.S. for the final analysis of the feasibility study.

Phase II-Dissemination of HCAHPS Survey

HCAHPS survey instrument. The HCAHPS survey was the tool used to meet the purposes of the feasibility study. The HCAHPS survey (Appendix A) included a total of 27 items. Of the 27-items, there were 14 items using a 4-point *Likert* scale (1=never, 2=sometimes, 3=usually, 4=always) to assess the patient's perspective for specific categories regarding the care from nurses (4 items); care from physicians (3 items); hospital environment (2 items); and experiences in the hospital (5 items). The category of 'experiences in the hospital', items number 10, 12, and 15 were presented in a dichotomous format (yes/no) and required responses regarding if the individual required bathroom assistance, pain control, or had medications not previously prescribed during their hospital experience.

Ten items on the HCAHPS were multiple choice items pertaining to the following categories: (a) hospital discharge -when you left the hospital (3 items) (b) overall rating of the hospital (2 item); and (c) personal information - about you (5 items); overall health, education, demographic information (See Appendix A). The 27 items reflected the patient's overall perceptions of communication with physicians and nurses, responsiveness of hospital staff, cleanliness and quietness of hospital environment, pain management, communication regarding medications, discharge information, overall rating and recommendation of the hospital (CMS, 2012c).

This HCAHPS survey has been rigorously tested for reliability and validity as patient satisfaction survey via a multi-step process nationally (CAHPS II Investigators & AHRQ, 2003). To meet the purposes of this feasibility study, only the rate of survey return and numbers of items completed were described overall and for each of the two modes of dissemination (mail and phone). These findings were then compared to each group (mail versus phone) to determine if there are differences between the two modes of dissemination regarding rate of return and number of items completed. Survey findings with regards to the patient's perception of their hospital experiences and specific data from the HCAHPS survey was not a part of the study's purpose and thus, was not analyzed.

While HCAHPS survey is provided to consumers in different languages, for the purpose of this feasibility study, only the English and Spanish version of the survey was used since English and Spanish were the two predominant languages spoken within the community serviced by the hospital. The importance of collecting data that are reflective of the individual's spoken and written language was provided utilizing the appropriate HCAHPS survey in English (Appendix A) or Spanish based upon the patient's response to the demographic tool that queried 'which language do you feel you can read or write well'? (Appendix D). Both the English and Spanish version of the HCAHPS survey are part of the national initiative sponsored by the USDHHS.

Sampling method. Only individuals meeting the inclusion criteria as determined by the demographic instrument and who agreed to participate in the demographic and dissemination phases of the study were continued into Phase II of

the study. Phase II consisted of randomly assigning participants to one of two groups (1) individuals who were mailed the HCAHPS survey with no additional follow-up; and (2) individuals who receive the survey via telephone with reading and if requested by the participant, item clarification. Assignment to one of the two groups was determined after eligibility for the study was established via the demographic instrument.

For the purpose of this feasibility study, patients who were ready to be discharged within 24 hours, who volunteered to participate in the feasibility study, and who met the inclusion criteria were randomly assigned to one of the two groups for dissemination of the HCAHPS survey: (1) mail; or (2) telephone dissemination. Random assignment was conducted using a numbering system from a list of number (1-200) drawn by the study manager/researcher (author) or assistants from a designated box developed for randomly assignment. Participants who received an 'even' number were assigned to receive the HCAHPS survey via mail (Group 1), Participants who received an odd number was assigned to receive the HCAHPS survey via telephone whereby the survey was read and items clarified as needed (Group 2). Typically, the CMS utilizes a basic sampling method for the HCAHPS survey by extracting random samples from every eligible hospitalized patient who has been discharged on a monthly basis. For the purpose of this study, only those who volunteered to participate in the feasibility study was randomly assigned to one of the two modes of HCAHPS survey dissemination previously described.

Modes of dissemination. The HCAHPS survey for this feasibility study was disseminated either by mail or by phone. The demographic tool included the

hospital discharge date so that the feasibility study manager could adhere to the 48 hours to 6 weeks dissemination guidelines of the CMS. All individuals in Phase II of the study had the HCAHPS surveys disseminated within 1 week following discharge. Only the feasibility study manager (author) disseminated the HCAHPS survey using one of the two modes of dissemination. Having the feasibility study manager mail or phone the survey to the study's participants aided in controlling for differences in dissemination that may occur if others are conducting these procedures, particularly among participants who are phoned and provided item clarification.

Mailed surveys. In phase II, the study manager/researcher (author) mailed the HCAHPS surveys to participants using current mailing address supplied by the hospital. Mailing of the survey consisted of the HCAHPS survey, instructions and stamped envelope for return. The study manager/researcher (author) mailed the survey to the participants one week after discharge based upon the date of discharge on the demographic instrument. The participants' name and address was obtained by the study manager/researcher (author) from the numeric coded data on the demographic instrument and the information of the code tracked to the database. Once mailed, the participant was given 30 days from the mailing date to receive, complete, and return back the survey before the survey was considered 'not returned'; those who completed and returned the survey within the 30 days' time frame was considered for the purpose of this study as 'returned surveys' and the surveys was further analyzed to meet the study's purpose regarding item completion.

Phone dissemination. Participants randomly assigned to Group 2 (telephone dissemination) were phoned by the study manager/researcher (author) and asked if they would like to continue in the study by participating in completion of the HCAHPS survey. If agreed to complete the survey, the researcher read each of the HCAHPS survey items and if requested items clarified if not understood. The survey was disseminated 1 week after hospital discharge based upon the recorded date of discharge on the demographic instrument. The name of the participant and phone number was obtained by the study manager/researcher (author) based upon the numeric code on the demographic instrument and the information aligned to the database. Specifically, the study manager/researcher (author) read verbatim each item of the survey to all participants in Group 2 however, individuals who required more information to aid in understanding (based upon request for clarification) of survey items had the items reread or provided additional information to assist with understanding and clarity of the items. Individuals who agree to have the survey read was considered for this study's purpose as 'survey returned' and the survey was further analyzed to meet the purposes of the study regarding number of completed items. Individuals phoned and who requested not to continue in the study was considered 'survey not returned'. Those individuals who were phoned and were unavailable (e.g. not at home; line busy; no answer) were called again within 1 day after the initial phone call or phoned at a time convenient or requested by the individuals if they were 'busy' at the initial phone call. Individuals who failed to respond after five phone attempts, or had incorrect or disconnected phone numbers were considered 'attrition'.

Data Analysis

Data were analyzed using descriptive statistics based upon the level of measurement including means, standard deviations, frequency counts and percentages to describe the demographics characteristic of the participants (Phase I, information), number of the HCAHPS surveys returned and number of items completed overall and by dissemination mode, mail and phone dissemination (Phase II). To describe the participants of the study overall and by each of the two modes of dissemination, the mean, standard deviation and range were obtained on the age and years of education (continuous/ratio data) of the participants. Frequency counts and percentages were conducted on the nominal levels of measurement to describe the racial/ethnic groups self-reported by (White; African-American; Hispanic: other), the study participants.

Statistical tests were also conducted using frequencies and percentages on self-reported items of the questionnaire that queried "languages spoken and read well" (English; Spanish; other). For the dichotomous data (yes/no), pertaining to items that queried the participant's place of birth (American or Foreign Born) and if attended school in the United States, frequency counts and percentages were also conducted overall and by each of the two dissemination groups.

Besides the demographic data, the total number of HCAHPS surveys disseminated overall was calculated including the number and percentage of survey returned and by each of the two dissemination groups (mail and phone dissemination). This was a feasibility study, predominately to describe the data regarding the return rate and number of items completed in the HCAHPS surveys overall and by each of the two groups based upon dissemination (mail versus

phone). Because it was a feasibility study, there were no hypotheses addressed despite the use of an experimental design however, comparative statistical measures were conducted as an additional analyses to determine if there was a difference in the proportions of the 2 groups (mail versus phone) regarding the rate of HCAHPS survey return and number of items completed in order to obtain an effect size for future studies and power calculations.

All data for this feasibility study were examined through statistical analysis conducted using the *2007 NCSS Statistical Software*, Kaysville, Utah (Hintze, 2007) and *Statistical Package for Social Sciences (SPSS) Version 12.0* (2003). To analyze the comparative data, chi square statistics were conducted using a two-sided test and an alpha level set at 0.05.

Summary

This chapter provides the methods required to conduct this feasibility study to describe and compare the results of dissemination of the HCAHPS survey to adult patients with low literacy post inpatient hospital discharge at one Southern California hospital using two modes of dissemination: (1) via mail; (2) via telephone call augmented by reading and clarification, as needed at one Southern California hospital. The overall future objective of this feasibility study was to obtain data that could determine an effective strategy to capture the responses of the ‘vulnerable’ illiterate population served.

CHAPTER V

OUTCOME ANALYSIS

The purpose of this feasibility study was to describe and compare the results of dissemination of the Hospital Consumer Assessment of Healthcare Providers and System Survey (HCAHPS) surveys among adult patients with low literacy post hospital discharge using two mode of traditional dissemination: (1) mail with follow up telephone, providing reading and clarity, if needed; versus (2) mail of the survey without phone follow-up. The study was conducted at one Southern California hospital and involved two phases. In Phase I, patient eligibility was determined based upon predetermined inclusion criteria regarding low literacy (see Chapter IV) and Phase II involved actual dissemination of the study using the two modes of dissemination. This chapter presents the results to meet the purposes of the study. Specifically this chapter provides outcome data for Phase I and Phase II of the study including the number of participants who met the inclusion criteria for the study (Phase I), the demographic characteristics of the participants and the return rates and number of completed items of the HCAHPS survey overall and by each of two dissemination modes (phone versus mail). This chapter addresses the following questions to meet the purposes of the study:

1. What was the HCAHPS survey rate of return among adults with low literacy who received the survey by mail post hospital discharge at one Southern California hospital?

2. What was the number of items completed among adults with low literacy who received the survey by mail post hospital discharge at one Southern California hospital?
3. What was the HCAHPS survey rate of return among adults with low literacy who were read the survey by phone post hospital discharge at one Southern California hospital?
4. What was the number of items completed among adults with low literacy who were read the survey by phone post hospital discharge at one Southern California hospital?
5. Were there differences in the overall HCAHPS survey return rate in adults with low literacy level who were disseminated the survey via mail compared to those who were disseminated (read) the survey by phone?
6. Were there differences in the number of completed HCAHPS survey items in adults with low literacy level who were disseminated the survey via mail compared to those who were disseminated (read) the survey by phone?

The results of this study has significance to nursing practice by describing rates of return and number of completed HCAHPS survey items overall and by dissemination mode of a vulnerable population considered with low literacy. Determining appropriate measures for dissemination of health-related information such as that of the HCAHPS survey to individuals with low literacy has the potential to improve quality of care by enabling individuals with low literacy another means to have their hospital experiences voiced and understood by appropriate health care personnel and organizations.

Results

Sample/Participants

Important inclusion criteria for participants of this feasibility study were that of adults with low literacy levels recently discharged from the selected study hospital. The purpose of Phase I was to determine eligible participants for the study in order to meet the inclusion criteria for the study. Phase I of the study was conducted over a 1-month time period during the month of March 2011.

To obtain information on literacy levels, self-reported data were obtained on the education level of potential participants using the demographic instrument (Appendix D) during Phase I. Individuals who reported less than a high-school education served as a proxy for the inclusion criteria of low literacy level for the purpose of this study. Additional, eligibility criteria included adult individuals who were age 18 and over, who spoke English or Spanish and were discharged from a hospital located in Southern California. To obtain this information, trained assistants for this study, interviewed 386 adult patients at time of discharge to determine future eligibility to participate in Phase II of the study. To obtain eligibility criteria for Phase II, a researcher-developed instrument was used to assess demographic information including education level (Appendix D).

All 386 patients who were undergoing hospital discharge were approached by the study manager or study assistants to inquire about voluntary participation in the study and to complete the demographic assessment tool. Of these 386 patients, 333 (86.3%) agreed to answer the preliminary demographic survey questions and to participate in the Phase II of the study. Of the 333 patients who agreed to answer

the preliminary survey questions and to participate in the study, 47 (14.1%) did not meet eligibility criteria and were excluded from the study. Based upon this data 286 participants were eligible for Phase II and this number formed the basis of the sample used for this feasibility study and to conduct the analysis to meet the study's purposes.

Demographic characteristics. Table 1 provides a demographic summary of the 286 adults who participated in Phase II of the study. The sample was not normally distributed as determined by tests for normality (Shapiro-Wilks test = 0.9142282; $p = 9.873546\text{E-}12$). Ages of the participants ranged from 18 to 80 years with a median age of 43.5 years. The majority of the participants reported their race/ethnicity as Hispanic/Latino (63.6%), followed by African American (28.3%), White (5.6%), multi-racial (2.1%) or other, not specified (0.4%). Most of the participants reported a primary language (spoken or read) as Spanish (60.5%). When asked about place of birth, more than half (56.3%) of the participants reported birthplace as 'foreign' born (outside of the U.S.). When stratified by race/ethnicity, of the 182 participants who were of Hispanic/Latino race/ethnicity, 161 (88.5%) of them reported that they were foreign born.

Literacy level was an important variable to this feasibility study and an inclusion criterion for Phase II. Educational level served as a proxy for literacy level with low literacy defined as those adult discharged patients who self-reported their highest educational level as 'not completing high school' (grade completion less than grade 12). Educational status like that of age was not normally distributed for this sample (Shapiro-Wilks test = 0.8972629; $p = 5.093703\text{E-}13$). Self-reported grade completion for the 286 participants ranged from no schooling to grade 11

(*Md*, = grade 8). Ninety-seven (34.0%) did not attend high-school in the U.S. all of whom self-reported their race/ethnicity as Hispanic/Latino (Table 1).

Table 1

Self-Reported Demographic Characteristics of Adult Low Literacy Patients - Phase II (N=286)

Demographic Characteristics	<i>n</i> (of 286)	%
Age (years)		
18-30	36	12.6
31-40	101	35.3
41-50	26	9.1
51-60	11	3.8
61-70	67	23.4
71-80	45	15.8
Race/Ethnicity		
White	16	5.6
Black/African American	81	28.3
Hispanic/Latino	182	63.6
Multiracial	6	2.1
Other (Not specified)	1	0.4
Education (Highest Grade Completed):		
11 th	59	20.6
10 th	30	10.5
9 th	52	18.2
8 th	21	7.3
7 th	18	6.3
6 th	47	16.4
5 th	15	5.2
4 th	11	3.9
3 rd	8	2.8
2 nd	9	3.2
1 st	2	0.7
No prior schooling	14	4.9
Place of Birth		
United States	125	43.7
Language Spoken, Read or Written Well		
English	113	39.5
Spanish	173	60.5
Attended High School in the United States	189	66.1

The sample was grouped according to the type of dissemination mode for the HCAHPS survey. Two types of dissemination of the survey were assessed: (1) mail and (2) telephone with survey items read and clarified if needed. Demographic characteristics of each of the two groups (mail versus telephone) are described in Table 2. The average age of the participants who received the survey by mail was 51.4 years (SD = 17.7) compared to 47.4 years (SD= 18.2) of those who received the survey by phone. There was no statistically significant difference of the two groups by age ($t= 1.87, p = 0.06$). With the exception of the demographic characteristic of race/ethnicity, the two groups were comparable by mode of dissemination for the demographic characteristics of education, place of birth, language spoke, read or written well and attendance of high school in the U.S. Both the mail and phone dissemination groups were comprised of similar numbers/percentages of African-Americans however, participants who reported their race/ethnicity as ‘white’ were fewer in number in the phone group compared to that of the mail group. Higher percentages of participants who self-reported their ethnicity as Hispanic/Latino were also found in the phone group compared to that of the group disseminated the survey by mail (See Table 2).

Table 2

Baseline Demographic Characteristics of Adults with Low Literacy by Mode of Dissemination of the Healthcare Providers and Systems Survey (HCAHPS) (N=286)

Demographic Characteristics	Mode of Dissemination		p value
	Mail (n=143) n (%)	Phoned (n=143) n (%)	
Age	M 51.4 (SD= 7.8)	M 47.4 (SD=18.2)	0.06
Race/Ethnicity			0.02*
White	14 (9.8)	2 (1.4)	
Black/African American	41 (28.7)	40 (28.0)	
Hispanic/Latino	83 (58.0)	99 (69.2)	
Multiracial/Other (not specified)	5 (3.5)	2 (1.4)	
Education (Highest Grade Completed)			0.08
11 th	28 (19.6)	31 (21.7)	
10 th	21 (14.7)	10 (7.0)	
9 th	26 (18.2)	28 (19.6)	
8 th	10 (7.0)	3 (2.1)	
7 th	12 (8.4)	6 (4.2)	
6 th	19 (13.3)	28 (19.6)	
5 th	6 (4.2)	9 (6.3)	
4 th	7 (4.9)	4 (2.8)	
3 rd	1 (0.7)	7 (4.9)	
2 nd	3 (2.1)	8 (5.6)	
1 st	2 (1.4)	3 (2.1)	
No prior schooling	8 (5.6)	6 (4.2)	
Place of Birth			0.06
United States	71 (49.7)	54 (37.8)	
Foreign Born	72 (50.3)	89 (62.2)	
Language Spoken, Read Written			0.05
English	65 (45.5)	48 (33.6)	
Spanish	78 (54.5)	95 (66.4)	
Attended High School in the U.S.			0.32
Yes	99 (69.2)	90 (62.9)	
No	44 (30.8)	53 (37.1)	

Note: * denotes statistically significant difference between the two groups ($p < 0.05$) using two-tailed test (Chi square); With the exception of age, all demographic variables were analyzed at the nominal level of measurement by modes of dissemination (nominal level) and chi-square statistic was conducted to determine comparability of the groups.
M=Mean

Research Question #1: What was the HCAHPS rate of return among adults with low literacy who received the survey by mail post hospital discharge at one Southern California hospital?

Data regarding HCAHPS surveys return rates were stratified by modes of dissemination to address research question #1. There were 143 participants randomly assigned to Group 1 who were mailed the HCAHPS surveys based upon the demographic data (name and address) obtained from the demographic instrument completed in Phase I. Of the 143 surveys mailed, 12 of the surveys were returned to the hospital due to incorrect addresses. The total number of surveys analyzed to assess the return rate for mail dissemination was 131 surveys. Of the 131 surveys mailed 77 (58.7%) were returned within the designated one-month time period defined for the purpose of this study as ‘successful return rates’ for the surveys. Fifty-four (37.8%) of participants did not return the survey within the designated one-month period.

Research Question #2: What was the number of items completed among adults with low literacy who received the survey by mail post hospital discharge at one Southern California hospital?

There were 9 (6.3%) of the 77 participants who returned the HCAHPS surveys by mail who did not complete all the survey items. The survey items not completed varied by the participants. The HCAHPS surveys consist of 27 items. The number of patients and number of completed items were as follow: 68 (88.3%) of the participants had all items completed, two completed 25 items, three completed 18 items, 2 completed 15 items, one completed 11 items, and one

completed 5 items. The most frequently missed items among these participants were the last questions of the survey

Research Question #3: What was the HCAHPS rate of return among adults with low literacy who were read the survey by phone post hospital discharge at one Southern California hospital?

One hundred and forty-three of the participants randomly assigned to Group 2 were phoned using the demographic information (name and phone number) obtained during Phase I of the study. Of the 143 participants phoned, 15 (10.5%) refused to proceed with the study including 1 who stated ‘too busy’ to participate; 4 (2.8%) were not home (repeated unsuccessful attempts, removed from the study); 3 (2.1%) were incorrect phone numbers; and 1 (0.7%) phone number was continuously busy per each call attempt. To address research questions #3 and #4, 135 participants made up the final analysis for the HCAHPS survey group by phone dissemination mode. Of the 135 participants, 120 (83.9%) responded to the caller and answered the HCAHPS survey items and the remaining 15 individuals refused to answer the HCAHPS survey items.

Research Question #4: What was the number of items completed among adults with low literacy who were read the survey by phone post hospital discharge at one Southern California hospital?

Of the 120 participants’ contacted by phone and read the HCAHPS survey, all of them responded and completed the 27-survey items and 45 (31.46%) of the participants phoned requested clarity of one or more items. Figures 3 and 4 provide summary data regarding HCAHPS survey return and item completion by mode of dissemination.

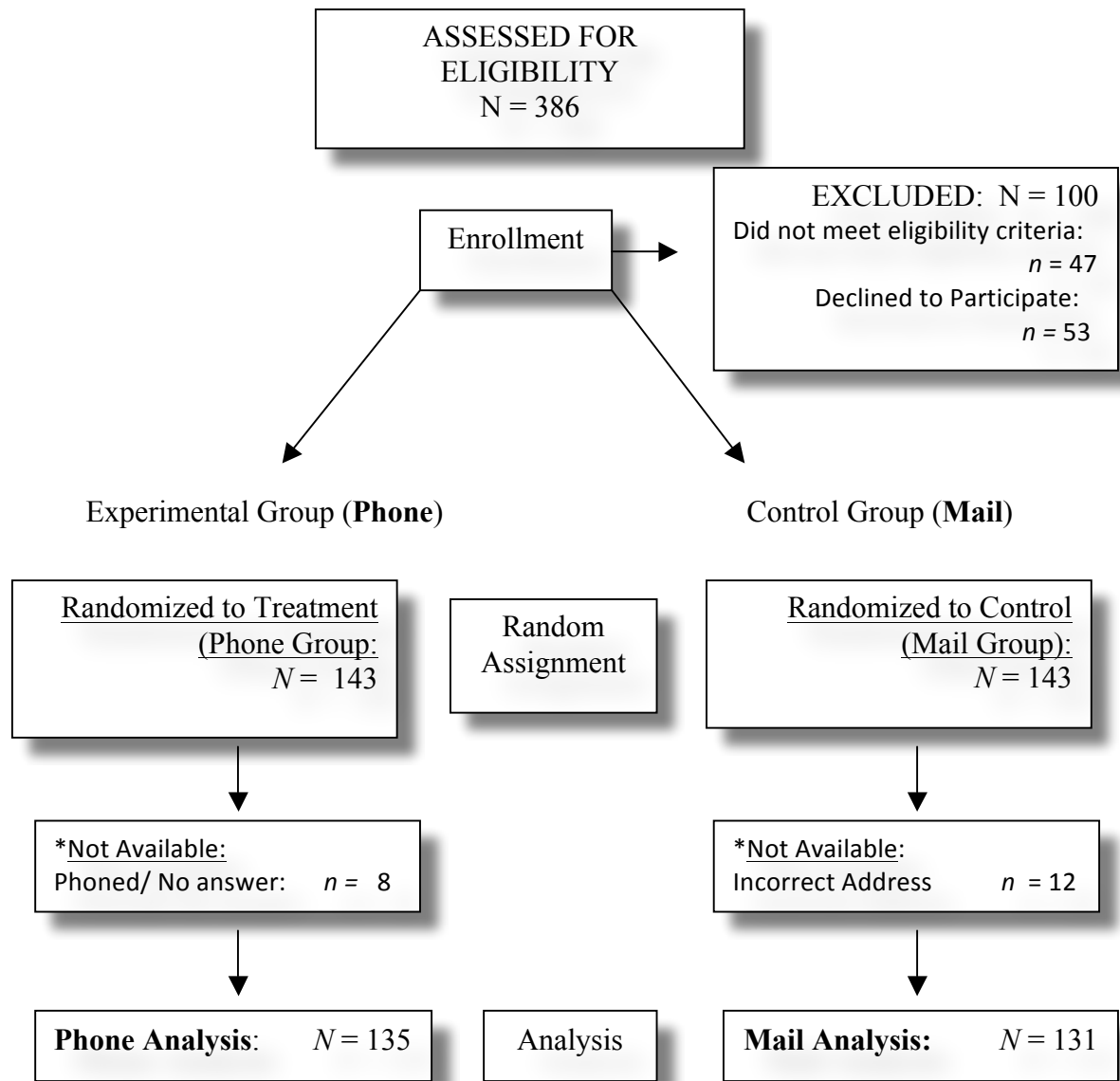


Figure 3. CONSORT Flowchart: Progression of Participants in Survey Dissemination by Phone and by Mail (eligibility to analysis).

*Includes individual's phone line busy; wrong phone number; no answer or not at home (unable to contact)

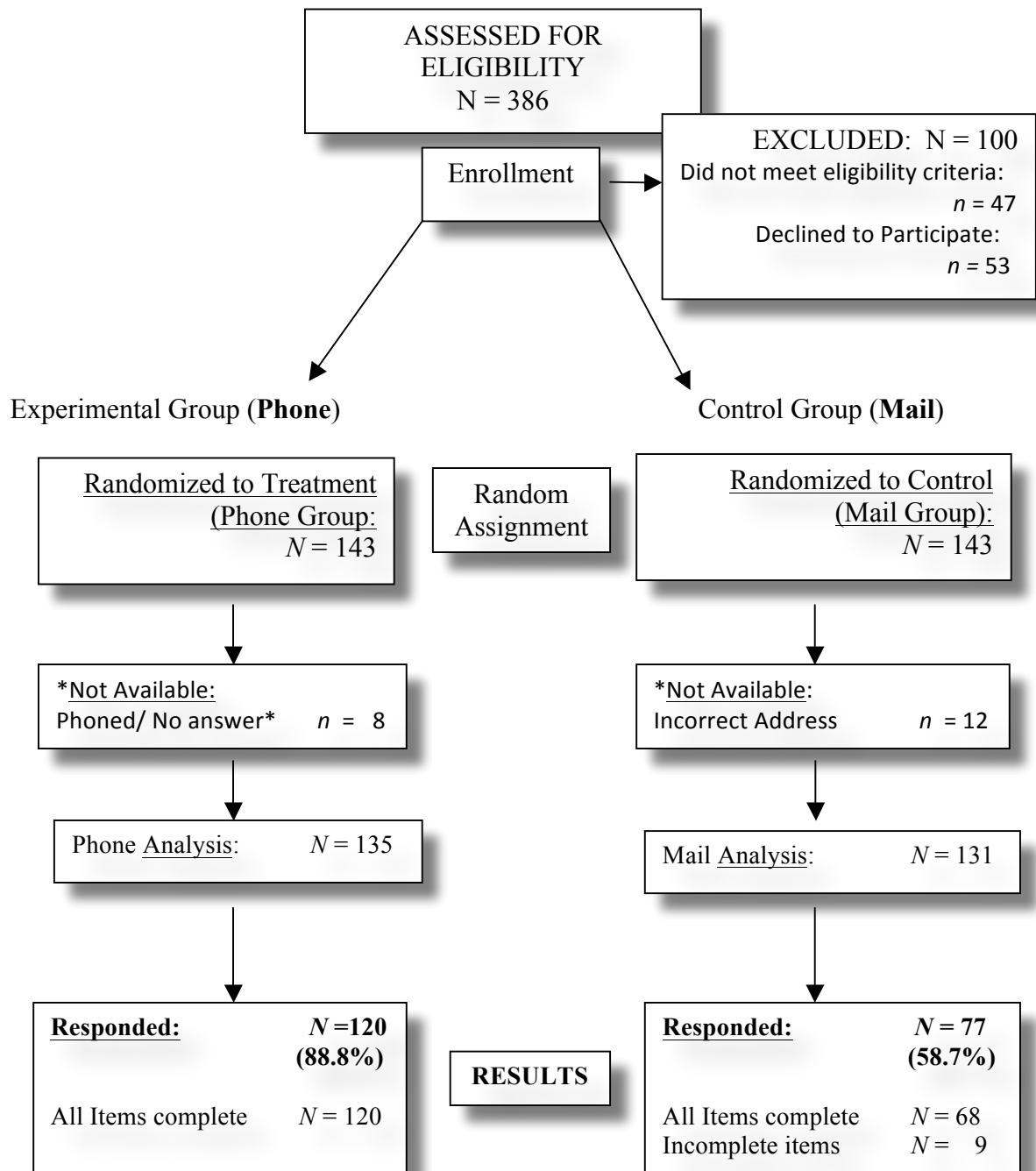


Figure 4. CONSORT Flowchart: Progression of Participants in Survey Dissemination by Phone and by Mail including Results with Survey Return Rates and Number of Completed Items

*Includes individual's phone line busy; wrong phone number; no answer or not at home (unable to contact)

Research Question #5: Were there differences in the overall HCAHPS survey return rate in adults with low literacy level who were disseminated the survey via mail compared to those who were disseminated (read) the survey by phone?

Overall, of the total 266 surveys disseminated to the participants via mail or by phone, a chi square statistic was utilized to determine if there were differences in the overall HCAHPS survey completed rate in adults with low literacy level who were disseminated the survey via mail compared to those who were disseminated (read) the survey by phone. Results revealed a statistically significant difference in the completed rate. Participants who were phoned and read the survey had higher proportions of returned surveys compared to those who were mailed the survey ($X^2= 43.87$, $p < 0.001$). The odds ratio (OR) of completing the survey were 7.4 times more likely (95% confidence intervals [CI] 3.92, 14.01) to occur when individuals were phoned the survey when compared to those who were mailed

Research Question #6: Were there differences in the number of completed HCAHPS survey items in adults with low literacy level who were disseminated the survey via mail compared to those who were disseminated (read) the survey by phone?

All ($N=120$) of the participants who were contacted by phone completed the entire 27 items on the HCAHPS surveys. Of the 77 participants who returned their survey by mail, nine of them failed to complete all 27-items on the HCAHPS surveys. There were statistically significant differences in the proportion of individuals who

completed all items on the survey by dissemination mode. When the dissemination of the survey was phoned to this sample of individuals with low literacy none of the survey items were left incomplete and items were clarified when needed compared to those who mailed the survey and had incomplete items; this difference was statistically significant ($X^2 = 14.7; p = 0.0001$). Individuals who were phoned the survey were more likely to complete the entire survey items compared to those who were mailed the survey (OR, 33.5; 95% CI 3.3, 128.9). There were 12 and 8 people in the mail and phone dissemination groups respectively who could not be contacted. Excluding these people, the total number of participants in the mail and phone group was 131 and 135 respectively.

Summary

The purpose of this feasibility study was to describe and compare the results of dissemination of the HCAHPS surveys among adult patients with low literacy post hospital discharge at one Southern California hospital using two mode of traditional dissemination: (1) mail with follow up telephone, providing reading and clarity, if needed; versus (2) mail of the survey without phone follow-up. Findings of this study found that when phoned, patients with low literacy level were more likely to participate in the HCAHPS surveys compared to those who were mailed the survey. In addition, completion of all survey items were more likely to occur when patients are phoned compared to when disseminated the survey by mail. Data results provide important information that may be useful in determining best practices for this population to improve outcomes regarding increasing HCAHPS survey return rates among this

vulnerable population. These findings guide the discussion, conclusion and recommendations presented in Chapter VI

CHAPTER VI

DISCUSSION AND IMPLICATIONS

The significance of customer satisfaction impacting companies plays an important role in measuring consumer's expectations and satisfaction especially in the hospital healthcare setting (Fratelli, 1991). Results of patient satisfaction scores remain an important indicator for measuring patient's expectation and satisfaction of their hospital experiences. Additionally, satisfaction survey results can provide a method to measure the quality of health care. The HCAHPS survey, a measurement of satisfaction also affects the quality of health care because it give the patient an opportunity to communicate their perspectives of hospital care service providing hospitals with the opportunity to develop new incentives to improve patient care (CMS, 2012c).

Despite the benefits of patient satisfaction surveys, HCAHPS rate of returns have been lower among patients with low literacy at one Southern California hospital warranting the need for this feasibility study to determine if dissemination mode (phone versus mail) impact HCAHPS outcomes regarding rates of return and completed items. In this study, higher rates of returns as well as 100% item completion were obtained among individuals with low literacy when HCAHPS dissemination was conducted by phone, each survey item read, and item clarity provided to respondents compared to those who received the surveys by mail. These findings support the major concepts of the Vulnerable Population Conceptual Model (VPCM) used in this study as well as prior research studies on survey use for patients with low literacy.

In this final chapter, a discussion of the study's findings is presented as it relates to the VPCM, the framework that guided this study. In addition, prior studies presented in the review of literature (Chapter III) are also discussed as these studies are supportive of or in contrast to the current study. This chapter also includes the limitations of this feasibility study, recommendations for further study and implications for nursing including the doctor of nursing practice role.

Theoretical Reflection and Study's Findings

Vulnerable Population Conceptual Model

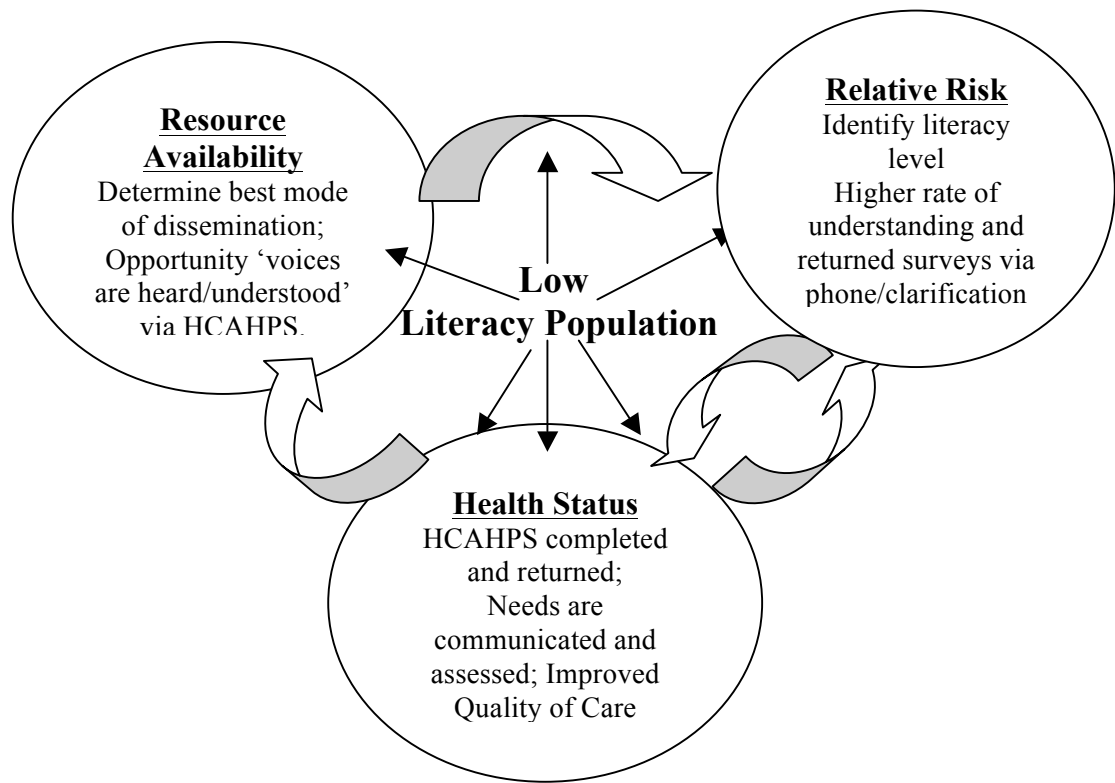
Hospitals are responsible to provide the best resources including information regarding patients' satisfaction post discharge so that future needs are met to ensure the best possible care and to prevent disease. This study's findings showed that among patients with low literacy the best type of resource for HCAHPS survey completion and return was with the use of phone dissemination when compared to that of mail dissemination and the odds of understanding and completing the survey was significantly higher via phone dissemination compared to those who received the survey by mail.

The VPCM is a conceptual model that describes the community's responsibility to the population regarding the conditions required for healthy living and reduction of disease vulnerability. The VPCM was used to guide this feasibility study as the study related to the concepts of the model that of 'resource availability' 'relative risk and 'health. According to the VPCM model, environmental resources include health care access and quality and the HCAHPS provides a standardized measure to assess the quality of care received by patients providing a means for hospitals to improve access and quality of health care and health care services. This feasibility study outcomes support

the model through its interrelationship of the concepts of availability of appropriate adequate resources (phone dissemination of HCAHPS), for at risk populations (low literacy level) to improve health status and quality of care. Specifically, this study found that identifying patients who are at risk (illiterate) is important for the determination and dissemination of appropriate resources (phone dissemination) and this form of dissemination has the potential to impact care. In this study, patients were assessed for their literacy level and those at risk were found to better respond to the HCAHPS when this resource was disseminated in a matter that could be understood and whereby items clarified if needed so that patient's hospital experiences were documented. The higher rates of return and total completion of survey items provides a means by which this vulnerable population's needs and concerns are communicated. Communication of needs and concerns by patients has the potential to influence future healthcare and health outcomes.

Relative risk, a concept of the model, defined as the ratio of the risk of poor health among groups having fewer resources, requires that healthcare providers appropriately assess and identify those who are at risk so that the best resource(s) can be implemented. In this study, identification of those who had low literacy, enabled a change in dissemination of the HCAHPS (change in resources from mail to survey) to improve outcomes regarding HCAHPS return rates. This study found that patients with low literacy level had a higher success rate of understanding and completing the survey when phone compared to mail and the obtainment of this information has the ability to impact future health status as patient's needs are heard and quality of care processes are made to

meet the need to the consumer. Figure 5 provides a summary of the findings of this study as each relates to the major concept of the model.



*Figure 5. Integration and Interrelationship of Concepts of the Vulnerable Population Conceptual Model for Individuals with Low Literacy Rates in the Use and Completion of the Hospital Consumer Assessment of Healthcare Providers and Systems Survey. Adapted from 'The Vulnerable Population Conceptual Model' by J. Flaskerud and B. Winslow, 1998, *Nursing Research*, 47, p. 70. Copyright 2011 by Wolters Kluwer Health including the three interrelated concepts of the model: resource availability, relative risk and health status.*

Health literacy is defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (USDHHS, Office of Disease Prevention & Health Promotion [ODPHP], 2012) and is an important goal of “*Healthy*

People 2020 “to use health communication strategies and health information technology (IT) to improve population health outcomes and health care quality, and to achieve health equity (USDHHS, 2012).

Review of Literature and Current Study’s Findings

In this current study, the use of traditional dissemination of HCAHPS to patients post discharge was found to result in low rate of returns in a hospital where the typical patient is of low socioeconomic status, uneducated and with low literacy. Prior studies have shown that effective strategies to enhance patient’s understanding of healthcare information are warranted for individuals with low level literacy (Bickmore et al., 2009). Like that of the study by Bickmore et al. (2009) this study’s findings support the need to clarify information for individuals with low literacy level. In another study by Al-Tayyib et al. (2002) the researchers reported a connection between low literacy and the participant’s inability to accurately complete a self administered questionnaire which have important implications for the survey measurement of health and other behaviors.

The authors concluded that these findings might be attributed to a lack of understanding of survey items. These studies are consistent with this feasibility study findings that clarification of information to patients based upon their literacy level results in improvement of HCAHPS return rate including number of items completed and this is obtained when patients are phoned rather than mailed the survey. Thus, effective communication is integral to successful return rates for this vulnerable population. In fact, Sofaer et al. (2005) reported that effective communication is the most important and valued feature of participants, particularly regarding ‘understanding’ and ‘explanation’ of information.

Limitations, Strengths & Recommendations

This feasibility study was limited by the selection of one hospital located in Southern California thus the findings cannot be generalized to other settings or populations of individuals with low literacy levels. However, despite this limitation, the findings are supported by prior studies that reported the significance of providing clarification to patients with low literacy levels. Moreover, the findings support the major concepts of the VPCM, indicating the importance of effective available resources to improve outcomes.

This study had components of an experimental design including an intervention (phone dissemination of HCAHPS), control group (traditional mail dissemination) and controls to reduce extraneous variables that could confound findings and randomization. Strengths of this study included the random assignment of the participants to the two groups enabling comparability of the groups and reducing threats to internal consistency. Utilizing the one individual who disseminated the survey via telephone where ‘control’ was integral to the study to reduce threats to validity providing uniformity and constancy of conditions thus, reducing error. Strict protocols for data collection also enabled constancy of conditions further minimizing threats to validity and randomly assigning groups to the intervention (phone) and control (mail groups) minimized internal validity threats that was found through comparability of the two groups noted in Table 2. Further, the use of an experimental design is a measure of causality regarding the effect of the intervention (phone dissemination) in improving outcomes. Recommendations for future

study includes repeating the study at other facilities to provide confirmability of the findings.

Implications for Nursing Practice

Cost Benefit Analysis/Translation for Practice

These findings provide beginning data that may be useful in supporting the need for ‘change’ in survey dissemination for patients with low literacy level. This change may warrant assessment of data to identify those who are at risk for low literacy while hospitalized so that appropriate resources including HCAHPS dissemination can be implemented to ensure comprehension of health information and improve survey response rates. Institutional policy change regarding distribution of this survey at this one Southern California hospital where most consumers are poor and educated may be warranted based upon these findings.

Further studies however, are still warranted to determine if the current HCAHPS is a suitable tool for patients with low literacy despite the 6th grade reading level that has been given to the existing survey. This is important given the culturally diverse populations in the U.S. particularly in Southern California and the increasing rates of poverty and lower education levels among the poor and underserved. Also, nurses should continue to strive for other effective evidence-based strategies that can enhance HCAHPS rate for individuals with low literacy.

Nursing Practice

The presentation of the findings of the feasibility study presents important implications for practice such as providing an alternative mode of dissemination other than the traditional mailing of the HCAHPS survey to meet the needs of the ‘vulnerable’

population in an approach to improve quality of care and outcomes. Improving return rates of HCAHPS have significant implications to hospitals where reimbursements of hospitals for improved HCAHPS survey scores may lead to additional resources that further impact nursing and health care. In addition since the HCAHPS scores are available for the consumer to view via the internet, improved scores could assist those ‘vulnerable’ populations to select the hospital of choice based on published scores.

Significance of the Findings to the Doctor of Nursing Practice Role

Nurses with a Doctor of Nursing Practice (DNP) degree can be a major factor in providing effective measures to improve patient outcomes including HCAHPS return rates. One important aspect of the DNP role is to ensure that all patients are assessed for health literacy while hospitalized and provide appropriate resources to individuals based upon their health literacy level. Secondly, monitoring the status of the HCAHPS return rate and implementing measures including change in dissemination mode may be a policy warranting the need of a nurse with a DNP in order to provide leadership and education to staff and administration.

References

- Abt Associates, Inc. (2005). *Costs and benefits of HCAHPS: Final report*. Retrieved from <http://www.cms.hhs.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/downloads//HCAHPSCostsBenefits200512.pdf>
- Aday, L. (1993). *At risk in America: The health and health care needs of vulnerable populations in the United States*. San Francisco, CA: Jossey-Bass.
- Al-Tayyib, A. A., Rogers, S. M., Gribble, J. N., Villarroel, M., & Turner, C. F. (2002). Effect of low medical literacy on health survey measurements. *American Journal of Public Health*, 92(9), 1478-1480.
- Andrus, M., & Roth, M., (2002). Health literacy: A review. *Pharmacotherapy*, 22 (3), 282-302.
- Avis, M., Bond, M., & Arthur, A. (1995). Satisfying solutions? A review of some unresolved issues in the measurement of patient satisfaction. *Journal of Advanced Nursing*, 22(2), 316-322.
- Baker, D. (2006). The meaning and the measure of health literacy. *Journal of General Internal Medicine*, 21(8), 878-883.
- Baker, D.W., Gazmararian, J. A., Williams, M. V., Scott, T., Parker, R.M., Green, D., & Peel, J. (2002). Functional health literacy and the risk of hospital admission among Medicare managed care enrollees. *American Journal of Public Health*, 92(8), 1278-1283.

- Bennett, D. (2003). *Low literacy, high risk: The hidden challenge facing health in California*. Retrieved from http://cahealthliteracy.org/pdffiles/healthliteracylongreport012704_3.pdf
- Berkman, N. D., DeWalt, D. A., Pignone, M. P., Sheridan, S. L., Lohr, K. N., Lux, L.,... Bonito, A. J. (2004). Literacy and health outcomes. (AHRQ Publication No.04-E007-2). Rockville, MD: Agency for Healthcare Research and Quality. Retrieved from <http://archive.ahrq.gov/downloads/pub/evidence/pdf/literacy/literacy.pdf>
- Bickmore, T., Pfeifer, L., & Paasche-Orlow, M. (2009). Using computer agents to explain medical documents to patients with low health literacy. *Patient Education and Counseling*, 75(3), 315-320.
- Blumenthal, D. (1996). Quality of care-What is it? *New England Journal of Medicine*, 335, 891-894.
- CAHPS II Investigators & Agency for Healthcare Research and Quality. (2003). *HCAHPS three-state pilot study analysis results*. Retrieved from https://www.cms.gov/HospitalQualityInits/downloads/Hospital3State_Pilot_Analysis_Final200512.pdf
- Centers for Medicare & Medicaid Services. (n.d.). *Roadmap for implementing value driven healthcare in the traditional Medicare fee-for-service program*. Retrieved from https://www.cms.gov/QualityInitiativesGenInfo/downloads/VBPRoadmap_OEA_1-16_508.pdf

- Centers for Medicare & Medicaid Services. (2007). *The CAHPS hospital survey (HCAHPS): Fact sheet*. Retrieved from http://www.hcahpsonline.org/files/Final-HCAHPS%20fact%20sheet_100307.pdf
- Centers for Medicare & Medicaid Services. (2009). *HCAHPS fact sheet*. Retrieved from <http://www.hcahpsonline.org/files/HCAHPS%20Fact%20Sheet,%20revised1,%2003-31-09.pdf>
- Centers for Medicare & Medicaid Services. (2010). *HCAHPS fact sheet*. Retrieved from <http://www.hcahpsonline.org/files/HCAHPS%20Fact%20Sheet%202010.pdf>
- Centers for Medicare & Medicaid Services. (2012a). *Quality initiatives-general Information*. Retrieved from <https://www.cms.gov/QualityInitiativesGenInfo/>
- Centers for Medicare & Medicaid Services. (2012b). *Hospital compare*. Retrieved from <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalCompare.html>
- Centers for Medicare & Medicaid Services (2012c). *HCAHPS: Patient's perspective of care survey*. Retrieved from <https://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/HospitalQualityInits/HospitalHCAHPS.html>
- Coffey, C. (2007). Building a system of perfect depression care in behavioral health. *The Joint Commission Journal on Quality and Patient Safety*, 33(4), 193-199.
- Community Hospital of San Bernardino. (2009). *Community benefit report 2008 & community benefit plan 2009*. San Bernardino, CA: Catholic Healthcare West.

- Consumers Union. (2010). *How we rate hospitals*. Retrieved from <http://www.consumerreports.org/health/resources/pdf/how-we-rate-hospitals/How+We+Rate+Hospitals+Feb+2010+13+Jan.pdf>
- de Chesnay, M., & Anderson, B. A. (2008). *Caring for the vulnerable: Perspectives in nursing theory, practice, and research* (2nd ed.). Sudbury, MA: Jones and Bartlett.
- DeBanco, T. L. (1996). Quality of care through the patient's eyes. *British Medical Journal*, 313, 832-833.
- Fineman, M. A. (2010). *The vulnerable subject and responsive state* (Emory Public Law Research Paper No. 10-130). Retrieved from Social science research network website: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1694740##
- Fitzpatrick, R. (1991). Surveys of patient satisfaction: I-important general considerations. *British Medical Journal*, 302, 887-889.
- Flaskerud, J., & Winslow, B. (1998). Conceptualizing vulnerable populations: Health-related research. *Nursing Research*, 47, (2) 69-78.
- Fleming, B. (2008). *Public disclosure of patient satisfaction: HCAHPS and its implications* [PowerPoint slides]. Retrieved from http://www.sc-ahq.org/app/files/PG_HCAHPS_SCHA_May2008.pdf
- Fratelli, C. M., (1991). *Measuring client satisfaction*. Retrieved from <http://www.asha.org/SLP/healthcare/Measuring-Client-Satisfaction/>
- Giordano, L., Elliott, M., Goldstein, E., Lehrman, W., & Spencer, P. (2010). Development, implementation, and public reporting of the HCAHPS survey. *Medical Care Research and Review*, 67(1), 27-37.

Guadagnino, C. (2003, December). Role of patient satisfaction. *Physicians News Digest*.

Retrieved from <http://www.physiciansnews.com/2003/12/23/role-of-patient-satisfaction/>

Hintze, J. (2007). Number Cruncher Statistical Systems (Version 2007) [Computer Software]. Kaysville, UT: NCSS.

Joint Commission International. (2008). *The international essentials of health care quality and patient safety*. Retrieved from <http://www.jointcommissioninternational.org/common/pdfs/consulting/JCI-essentials-framework.pdf>

Kutner, M., Greenberg, E., Jin, Y., & Paulsen, C. (2006). *The health literacy of America's adults: Results of the 2003 National Assessment of Health Literacy. (NCES Report No. 2006-483)*. Retrieved from National Center for Education Statistics website:
<http://nces.ed.gov/pubs2006/2006483.pdf>

Larkin, C. (2007, September). *Using HCAHPS data to improve the quality of patient care*. PowerPoint slides presented at the First Annual Conference of the Agency for Healthcare Research and Quality, Bethesda, MD. Retrieved from <http://archive.ahrq.gov/about/annualmtg07/0927slides/larkin/Larkin-1.html>

Lasek, R. J., Barkley, W., Harper, D. L., & Rosenthal, G., E. (1997). An evaluation of the impact of nonresponse bias on patient satisfaction surveys. *Medical Care*, 35, 646-652.

Matos, K. (2011, May 11). *Final value-based purchasing rule released* [Web log post]. Retrieved from <http://www.healthreformwatch.com/tag/hospital-vbp-program/>

- National Network of Libraries of Medicine. (2011). *Health literacy*. Retrieved from <http://nnlm.gov/outreach/consumer/hlthlit.html>
- Paasche-Orlow, M. K., Parker, R. M., Gazmararian, J. A., Nielsen-Bohlman, L. T., & Rudd, R. R. (2005). The prevalence of limited health literacy. *Journal of General Internal Medicine*, 20(2), 175-184.
- Parker, R. (2000). Health literacy: A challenge for American patients and their health care providers. *Health Professional International*, 15, 277-283.
- Patient satisfaction. In *Medical Dictionary Online* (2012).. Retrieved from <http://www.online-medical-dictionary.org/omd.asp?q=patient+satisfaction>
- Petinelli, M. (2011). *Definition of literacy*. Retrieved from <http://cnx.org/content/m15760/1.8/>
- Polit, D., & Beck, C. T. (2011). *Nursing research: Generating and assessing evidence for nursing practice* (9th ed.). Philadelphia, PA: Lippincott Williams & Wilkins.
- Reese, S. (2009, May 1). Patient experience correlates with clinical quality. *Managed Healthcare Executives*. Retrieved from <http://managedhealthcareexecutive.modernmedicine.com/mhe/Quality+Strategy/Patient-experience-correlates-with-clinical-quality/ArticleStandard/Article/detail/595838>
- Saunders, J., M. (2007). Vulnerable populations in an American Red Cross shelter after hurricane Katrina. *Perspectives in Psychiatric Care*, 43, 33-37.
- Shea, J. A., Guerra, C. E., Weiner, J., Aguirre, A. C., Ravenell, K. L., & Asch, D. A. (2008). Adapting a patient satisfaction instrument for low literate and Spanish-

- speaking populations: Comparison of three formats. *Patient Education and Counseling*, 73, 132-140.
- Shi, L., Stevens, G. D., Lebrun, L. A., Faed, P., & Tsai, J. (2008). Enhancing the measurement of health disparities for vulnerable populations. *Journal of Public Health Management & Practice*, 14(6, Suppl.), S45-S52. Retrieved from <http://www.nursingcenter.com/pdf.asp?AID=819684>
- Sitzia, J., & Wood, N. (1997). Patient satisfaction: A review of issues and concepts. *Social Science & Medicine*, 45(12), 1829-1843.
- Sofaer, S., Crofton, C., Goldstein, E., Hoy, E., & Crabb, J. (2005). What do consumers want to know about the quality of care in hospitals? *Health Services Research*, 40(6, Pt. 2), 2018-2036.
- Statistical Package for the Social Science, Inc. (Version 12.0) [Computer software]. (2003). Chicago, IL: SPSS.
- Studer, Q., Robinson, B., & Cook, K. (2010). *The HCAHPS handbook: Hardwire your hospital for pay-for-performance success* (1st ed.). Gulf Breeze, FL: Fire Starter Publishing.
- United States Department of Health & Human Services (n.d.). *Survey of patient's hospital experiences (HCAHPS)*. Retrieved from <http://www.hospitalcompare.hhs.gov/staticpages/for-professionals/patient-survey-faq.aspx?EntryID=0009>
- United States Department of Health & Human Services. (2011). *HHS environmental justice strategy and implementation plan*. Retrieved from <http://www.hhs.gov/environmentaljustice/>

- United States Department of Health & Human Services. (2012). *Introducing healthy people 2020*. Retrieved from <http://www.healthypeople.gov/2020/about/default.aspx>
- United States Department of Health & Human Services, Agency for Healthcare Research and Quality. (2011a). *AHRQ at a glance*. Retrieved from <http://www.ahrq.gov/about/ata glance.htm>
- United States Department of Health & Human Services, Agency of Healthcare Research & Quality. (2011b). *Frequently asked questions: For what reading level are CAHPS surveys designed?* Retrieved from <https://www.cahps.ahrq.gov/About-CAHPS/FAQs/FAQ-Search-Results?category={2479D47A-0A1E-4E1F-BA17-80448AEC3791}#747159DB-F8DB-422B-B0CA-DD04774A4B9C>
- United States Department of Health & Human Services, Agency for Healthcare Research and Quality. (2012). *The CAHPS program*. Retrieved from <http://www.cahps.ahrq.gov/About-CAHPS/CAHPS-Program.aspx>
- United States Department of Health & Human Services & Office of Disease Prevention and Health Promotion. (2000). *Healthy people 2010: Health communication*. Retrieved from <http://www.projectshine.org/sites/default/files/Health%20Communication.pdf>
- United States Department of Health & Human Services, Office of Disease Prevention and Health Promotion. (2012). *Health literacy?* Retrieved from <http://www.health.gov/communication/literacy/>
- Vernon, J. A., Trujillo, A., Rosenbaum, S., & DeBuono, B. (n.d.). *Low health literacy: Implications for national health policy*. Retrieved from

http://www.gwumc.edu/sphhs/departments/healthpolicy/chpr/downloads/LowHealthLiteracyReport10_4_07.pdf

Williams, M. V., Parker, R. M., Baker, D. W., Parikh, N. S., Pitkin, K., Coates, W. C., & Nurss, J. R. (1995). Inadequate functional health literacy among patients at two public hospitals. *Journal of the American Medical Association*, 274, 1677-1682.

APPENDIX A

HOSPITAL CONSUMER ASSESSMENT OF HEALTHCARE PROVIDERS
AND SYSTEM SURVEY (HCAHPS)

English and Spanish Versions

Letter to accompany the HCAHPS

HCAHPS Survey

SURVEY INSTRUCTIONS

- ◆ You should only fill out this survey if you were the patient during the hospital stay named in the cover letter. Do not fill out this survey if you were not the patient.
- ◆ Answer all the questions by checking the box to the left of your answer.
- ◆ You are sometimes told to skip over some questions in this survey. When this happens you will see an arrow with a note that tells you what question to answer next, like this:

☐ Yes
☒ No → **If No, Go to Question 1**

You may notice a number on the survey. This number is ONLY used to let us know if you returned your survey so we don't have to send you reminders.
Please note: Questions 1-22 in this survey are part of a national initiative to measure the quality of care in hospitals. OMB #0938-0981

Please answer the questions in this survey about your stay at the hospital named on the cover letter. Do not include any other hospital stays in your answers.

YOUR CARE FROM NURSES

1. During this hospital stay, how often did nurses treat you with courtesy and respect?
 - ¹ ☐ Never
 - ² ☐ Sometimes
 - ³ ☐ Usually
 - ⁴ ☐ Always
2. During this hospital stay, how often did nurses listen carefully to you?
 - ¹ ☐ Never
 - ² ☐ Sometimes
 - ³ ☐ Usually
 - ⁴ ☐ Always

3. During this hospital stay, how often did nurses explain things in a way you could understand?
 - ¹ ☐ Never
 - ² ☐ Sometimes
 - ³ ☐ Usually
 - ⁴ ☐ Always

4. During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted it?
 - ¹ ☐ Never
 - ² ☐ Sometimes
 - ³ ☐ Usually
 - ⁴ ☐ Always
 - ⁹ ☐ I never pressed the call button

YOUR CARE FROM DOCTORS

5. During this hospital stay, how often did doctors treat you with courtesy and respect?
- ¹ ☐ Never
² ☐ Sometimes
³ ☐ Usually
⁴ ☐ Always
6. During this hospital stay, how often did doctors listen carefully to you?
- ¹ ☐ Never
² ☐ Sometimes
³ ☐ Usually
⁴ ☐ Always
7. During this hospital stay, how often did doctors explain things in a way you could understand?
- ¹ ☐ Never
² ☐ Sometimes
³ ☐ Usually
⁴ ☐ Always

THE HOSPITAL ENVIRONMENT

8. During this hospital stay, how often were your room and bathroom kept clean?
- ¹ ☐ Never
² ☐ Sometimes
³ ☐ Usually
⁴ ☐ Always
9. During this hospital stay, how often was the area around your room quiet at night?
- ¹ ☐ Never
² ☐ Sometimes
³ ☐ Usually
⁴ ☐ Always

YOUR EXPERIENCES IN THIS HOSPITAL

10. During this hospital stay, did you need help from nurses or other hospital staff in getting to the bathroom or in using a bedpan?
- ¹ ☐ Yes
² ☐ No → If No, Go to Question 12
11. How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?
- ¹ ☐ Never
² ☐ Sometimes
³ ☐ Usually
⁴ ☐ Always
12. During this hospital stay, did you need medicine for pain?
- ¹ ☐ Yes
² ☐ No → If No, Go to Question 15
13. During this hospital stay, how often was your pain well controlled?
- ¹ ☐ Never
² ☐ Sometimes
³ ☐ Usually
⁴ ☐ Always
14. During this hospital stay, how often did the hospital staff do everything they could to help you with your pain?
- ¹ ☐ Never
² ☐ Sometimes
³ ☐ Usually
⁴ ☐ Always

15. During this hospital stay, were you given any medicine that you had not taken before?

¹ ☐ Yes

² ☐ No → If No, Go to Question 18

16. Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?

¹ ☐ Never

² ☐ Sometimes

³ ☐ Usually

⁴ ☐ Always

17. Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?

¹ ☐ Never

² ☐ Sometimes

³ ☐ Usually

⁴ ☐ Always

WHEN YOU LEFT THE HOSPITAL

18. After you left the hospital, did you go directly to your own home, to someone else's home, or to another health facility?

¹ ☐ Own home

² ☐ Someone else's home

³ ☐ Another health facility → If Another, Go to Question 21

19. During this hospital stay, did doctors, nurses or other hospital staff talk with you about whether you would have the help you needed when you left the hospital?

¹ ☐ Yes

² ☐ No

20. During this hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?

¹ ☐ Yes

² ☐ No

OVERALL RATING OF HOSPITAL

Please answer the following questions about your stay at the hospital named on the cover letter. Do not include any other hospital stays in your answers.

21. Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?

⁰ ☐ 0 Worst hospital possible

¹ ☐ 1

² ☐ 2

³ ☐ 3

⁴ ☐ 4

⁵ ☐ 5

⁶ ☐ 6

⁷ ☐ 7

⁸ ☐ 8

⁹ ☐ 9

¹⁰ ☐ 10 Best hospital possible

22. Would you recommend this hospital to your friends and family?

- ¹ ☐ Definitely no
² ☐ Probably no
³ ☐ Probably yes
⁴ ☐ Definitely yes

ABOUT YOU

There are only a few remaining items left.

23. In general, how would you rate your overall health?

- ¹ ☐ Excellent
² ☐ Very good
³ ☐ Good
⁴ ☐ Fair
⁵ ☐ Poor

24. What is the highest grade or level of school that you have completed?

- ¹ ☐ 8th grade or less
² ☐ Some high school, but did not graduate
³ ☐ High school graduate or GED
⁴ ☐ Some college or 2-year degree
⁵ ☐ 4-year college graduate
⁶ ☐ More than 4-year college degree

25. Are you of Spanish, Hispanic or Latino origin or descent?

- ¹ ☐ No, not Spanish/Hispanic/Latino
² ☐ Yes, Puerto Rican
³ ☐ Yes, Mexican, Mexican American, Chicano
⁴ ☐ Yes, Cuban
⁵ ☐ Yes, other Spanish/Hispanic/Latino

26. What is your race? Please choose one or more.

- ¹ ☐ White
² ☐ Black or African American
³ ☐ Asian
⁴ ☐ Native Hawaiian or other Pacific Islander
⁵ ☐ American Indian or Alaska Native

27. What language do you mainly speak at home?

- ¹ ☐ English
² ☐ Spanish
³ ☐ Chinese
⁴ ☐ Russian
⁵ ☐ Vietnamese
⁶ ☐ Some other language (please print): _____

THANK YOU

Please return the completed survey in the postage-paid envelope.

[NAME OF SURVEY VENDOR OR SELF-ADMINISTERING HOSPITAL]

[RETURN ADDRESS OF SURVEY VENDOR OR SELF-ADMINISTERING HOSPITAL]

Sample Initial Cover Letter for the HCAHPS Survey

[HOSPITAL LETTERHEAD]

[SAMPLED PATIENT NAME]
[ADDRESS]
[CITY, STATE ZIP]

Dear [SAMPLED PATIENT NAME]:

Our records show that you were recently a patient at [NAME OF HOSPITAL] and discharged on [DISCHARGE DATE]. Because you had a recent hospital stay, we are asking for your help. This survey is part of an ongoing national effort to understand how patients view their hospital experience. Hospital results will be publicly reported and made available on the Internet at www.hospitalcompare.hhs.gov. These results will help consumers make important choices about their hospital care, and will help hospitals improve the care they provide.

Questions 1-22 in the enclosed survey are part of a national initiative sponsored by the United States Department of Health and Human Services to measure the quality of care in hospitals. Your participation is voluntary and will not affect your health benefits.

We hope that you will take the time to complete the survey. Your participation is greatly appreciated. After you have completed the survey, please return it in the pre-paid envelope. Your answers may be shared with the hospital for purposes of quality improvement. [OPTIONAL: You may notice a number on the survey. This number is ONLY used to let us know if you returned your survey so we don't have to send you reminders.]

If you have any questions about the enclosed survey, please call the toll-free number 1-800-xxx-xxxx. Thank you for helping to improve health care for all consumers.

Sincerely,

[HOSPITAL ADMINISTRATOR]
[HOSPITAL NAME]

Note: The OMB Paperwork Reduction Act language must be included in the mailing. This language can be either in the cover letter or on the front or back of the questionnaire. The exact OMB Paperwork Reduction Act language is included in this appendix. Please refer to the Mail Only, and Mixed Mode sections, for specific letter guidelines.

OMB Paperwork Reduction Act Language

The OMB Paperwork Reduction Act language must be included in the survey mailing. This language can be either in the cover letter or on the front or back of the questionnaire. The following is the language that must be used:

English Version

“According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0938-0981. The time required to complete this information collected is estimated to average 7 minutes per response for questions 1-22 on the survey, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this form, please write to: Centers for Medicare & Medicaid Services, 7500 Security Boulevard, C1-25-05, Baltimore, MD 21244-1850.”

Encuesta CAHPS® sobre Atención Hospitalaria

INSTRUCCIONES

- ◆ Llene esta encuesta únicamente si usted es el paciente que estuvo hospitalizado durante la estancia que se menciona en la carta que vino con la encuesta. No llene esta encuesta si usted no fue el paciente.
- ◆ Conteste todas las preguntas marcando el cuadrito que aparece a la izquierda de la respuesta que usted elija.
- ◆ A veces hay que saltarse alguna pregunta del cuestionario. Cuando esto ocurra, verá una flecha con una nota que le indicará la siguiente pregunta a la que tiene que pasar. Por ejemplo:
 - ☐ Sí
 - ☒ No → ***Si contestó "No", pase a la pregunta 1***

El número en la carta de presentación de esta encuesta SOLO sirve para saber que ya envió su respuesta y que no hay que enviarle recordatorios. Por favor tenga en cuenta que las Preguntas 1-22 de esta encuesta forman parte de una iniciativa nacional para evaluar la calidad de la atención en los hospitales. OMB #0938-0981

Las siguientes preguntas se refieren sólo a la vez que estuvo en el hospital cuyo nombre aparece en la carta de presentación de esta encuesta. No incluya información sobre otras veces que estuvo en otro hospital.

EL CUIDADO QUE RECIBÍ DE LAS ENFERMERAS

1. Durante esta vez que estuvo en el hospital, ¿con qué frecuencia le trataban las enfermeras con cortesía y respeto?
- ¹ ☐ Nunca
 - ² ☐ A veces
 - ³ ☐ La mayoría de las veces
 - ⁴ ☐ Siempre

2. Durante esta vez que estuvo en el hospital, ¿con qué frecuencia le escuchaban con atención las enfermeras?

- ¹ ☐ Nunca
- ² ☐ A veces
- ³ ☐ La mayoría de las veces
- ⁴ ☐ Siempre

3. Durante esta vez que estuvo en el hospital, ¿con qué frecuencia le explicaban las cosas las enfermeras en una forma que usted pudiera entender?

- ¹ ☐ Nunca
- ² ☐ A veces
- ³ ☐ La mayoría de las veces
- ⁴ ☐ Siempre

4. Durante esta vez que estuvo en el hospital, después de usar el botón para llamar a la enfermera, ¿con qué frecuencia le atendían tan pronto como usted quería?

¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre
⁹ ☐ Nunca usé el botón

EL CUIDADO QUE RECIBÍÓ DE LOS DOCTORES

5. Durante esta vez que estuvo en el hospital, ¿con qué frecuencia le trataban los doctores con cortesía y respeto?

¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre

6. Durante esta vez que estuvo en el hospital, ¿con qué frecuencia le escuchaban con atención los doctores?

¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre

7. Durante esta vez que estuvo en el hospital, ¿con qué frecuencia le explicaban las cosas los doctores en una forma que usted pudiera entender?

¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre

EL AMBIENTE EN EL HOSPITAL

8. Durante esta vez que estuvo en el hospital, ¿con qué frecuencia mantenían su cuarto y su baño limpios?

¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre

9. Durante esta vez que estuvo en el hospital, ¿con qué frecuencia estaba silenciosa el área alrededor de su habitación por la noche?

¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre

SU EXPERIENCIA EN ESTE HOSPITAL

10. Durante esta vez que estuvo en el hospital, ¿necesitó que las enfermeras u otro personal del hospital le ayudaran a llegar al baño o a usar un orinal (*bedpan*)?

¹ ☐ Sí
² ☐ No → Si contestó "No", pase a la pregunta 12

11. ¿Con qué frecuencia, le ayudaron a llegar al baño o a usar un orinal (*bedpan*) tan pronto como quería?

¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre

12. Durante esta vez que estuvo en el hospital, ¿necesitó medicamentos para el dolor?

- ¹ ☐ Sí
² ☐ No → Si contestó "No", pase a la pregunta 15

13. Durante esta vez que estuvo en el hospital, ¿con qué frecuencia le controlaban bien el dolor?

- ¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre

14. Durante esta vez que estuvo en el hospital, ¿con qué frecuencia hacía el personal del hospital todo lo que podía para aliviar su dolor?

- ¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre

15. Durante esta vez que estuvo en el hospital, ¿le dieron algún medicamento que no hubiera tomado antes?

- ¹ ☐ Sí
² ☐ No → Si contestó "No", pase a la pregunta 18

16. Antes de darle algún medicamento nuevo, ¿con qué frecuencia le dijo el personal del hospital para qué era el medicamento?

- ¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre

17. Antes de darle algún medicamento nuevo, ¿con qué frecuencia le describió el personal del hospital los efectos secundarios posibles en una forma que pudiera entender?

- ¹ ☐ Nunca
² ☐ A veces
³ ☐ La mayoría de las veces
⁴ ☐ Siempre

CUANDO SALIÓ DEL HOSPITAL

18. Después de salir del hospital, ¿se fue directamente a su propia casa, a la casa de otra persona, o a otra institución de salud?

- ¹ ☐ A mi casa
² ☐ A la casa de otra persona
³ ☐ A otra institución de salud → Si contestó "Otra", pase a la pregunta 21

19. Durante esta vez que estuvo en el hospital, ¿hablaron los doctores, enfermeras u otro personal del hospital con usted sobre si tendría la ayuda que necesitaba cuando se fuera del hospital?

- ¹ ☐ Sí
² ☐ No

20. Durante esta vez que estuvo en el hospital, ¿le dieron información por escrito sobre los síntomas o problemas de salud a los que debía poner atención cuando se fuera del hospital?

- ¹ ☐ Sí
² ☐ No

OMB Paperwork Reduction Act Language

The OMB Paperwork Reduction Act language must be included in the survey mailing. This language can be either in the cover letter or on the front or back of the questionnaire. The following is the language that must be used:

Spanish Version

“Según la Ley de Reducción de Trámites (*Paperwork Reduction Act*) de 1995, no se exige que una persona responda a la recopilación de información a menos que la solicitud de recopilación tenga un número válido de control de la OMB (*Office of Management and Budget*). El número válido de control de la OMB para esta recopilación de información es el 0938-0981. Se calcula que el tiempo que se necesita para llenar esta recopilación de información es, en promedio, de 7 minutos por respuesta para las preguntas 1 a 22 de la encuesta. En este cálculo se incluye el tiempo que la persona tarda en leer las instrucciones, buscar en los recursos existentes de datos, reunir los datos necesarios y llenar y repasar la recopilación de información. Si usted tiene comentarios relacionados con la exactitud del cálculo de tiempo o si tiene sugerencias para mejorar este formulario, escriba a: Centers for Medicare & Medicaid Services, 7500 Security Boulevard, C1-25-05, Baltimore, MD 21244-1850.”

APPENDIX B

INVESTIGATIVE REVIEW BOARD (IRB) APPROVALS



Northridge Hospital Medical Center

A member of CHW

December 1, 2010

Geraldine Cindie Fike, RN
Community Hospital of San Bernardino
1805 N. Medical Center Drive
San Bernardino, California 92411

Decision: IRB Approval – Expedited Review (21 CFR 56 / 45 CFR 46)
Description #1: Initial Activation – New Protocol

IRB #: CHSB 10-1103
Protocol Name: "Comparing Telephone versus Mail Dissemination of the Hospital Consumer Assessment of Healthcare Providers and System Survey (HCAHPS) among Patients with Low Literacy"

Dear Ms. Fike:

Thank you for submitting the above referenced study at the December 1, 2010 meeting of the NHMC Institutional Review Board. The IRB reviewed the submission along with the informed consent, CA bill of rights and HIPAA authorization and grants an **approval** of the study for one year from the meeting date.

The reporting guidelines are established by the DHHS and this IRB for new protocols. They require you, as Principal Investigator, to be responsible for:

1. Submitting all correspondence regarding this protocol to the IRB using the above protocol title and IRB # **CHSB 10-1103**.
2. Submitting a periodic progress report to the IRB (on the Periodic Progress Report form*). The IRB has designated that it will review this protocol every **12 months**. Your periodic review must be submitted and approved no later than **December 1, 2011**. You will receive a reminder 6 to 8 weeks prior to this date.
3. Submitting a final report (on the Permanent Closure/Final Report form*) within 30 days of the study's completion.
4. Reporting any protocol changes to the IRB for approval **prior** to implementation. (Changes necessary to eliminate immediate hazards to subjects may be implemented prior to IRB approval.)
* Reporting forms and submission guidelines are available from the IRB Coordinator.

I thank you in advance for your cooperation and support of the Institutional Review Board. If I can be of any additional assistance, please do not hesitate to contact me at IRB Office at (818) 885-8500, extension 5391.

Sincerely,

Miriam Piven Cotler, PhD
Chair, NHMC Regional Institutional Review Board (IRB)
The Human Use and Research Committee

18300 Roscoe Boulevard
Northridge, California 91328
318 885.8500 Telephone

CHW IRB #11
Northridge Hospital - Roscoe #00002328
Federal Wide Assurance No. 00001499

www.NorthridgeHospital.org

1 . d

1101 908

WHD Wd87:E 0102 22 000



The discipline of learning. The art of caring.

Institutional Review Board

(909) 469-5636 • FAX (909) 620-5456 • IRBAdmin@westernu.edu

February 11, 2011

Geraldine Fike, Primary Investigator
2508 Leon Street
Lla Verne, CA 91750

Re: Western University's Protocol #11/IRB/004
"Comparing Telephone versus Mail Dissemination of the Hospital Consumer Assessment of Healthcare Providers and System Survey (HCAHPS) among Patients with Low Literacy"

Dear Ms. Fike:

The above referenced protocol was reviewed on February 11, 2011. At this time, it is the opinion of the Institutional Review Board that this project qualifies for Exemption Status under the Western University of Health Sciences' IRB Manual, Section 5, Page 5 of 15, *criteria for exempt status certification*, Category 2, in accordance with federal regulations 45 CFR 46.101 (b).

Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Having met the above-referenced criteria, your protocol is exempt from further IRB review. If you have any questions, please contact the IRB office at (909) 469-5636.

Sincerely,

Bradley Henson, DDS, PhD
IRB Chair

cc: M. Katz – Funding Agency: N/A

309 E. Second Street • Pomona, California 91766-1854 • www.westernu.edu

APPENDIX C

INFORMED CONSENT

English and Spanish Versions



INFORMED CONSENT

We want to tell you about a study we are doing. We want to see if you want to take part in it. This study is a way for us to improve our care. We can improve our care by learning the ‘best’ way that people want to tell us about their hospital care after going home.

- The study author is Geraldine C. Fike. She is a nursing student from Western University of Healthcare Sciences. She is a nurse and employee of Community Hospital of San Bernardino.
- This study was approved by a group of people. This group protects our patients in studies like this. This group is called the Northridge Regional Institutional Review Board. You may have questions about this study. If you have questions you can contact this group of people or Joy Schlegal. The contact number is 1-818-885-8500, extension 5391.
- This study was also approved by Western University of Health Sciences Institutional Review Board.

The purpose of this study is to see if people who were patients in the hospital tell us about their hospital care after going home when called by phone or when a letter is sent to their home. We are trying to learn the best way patients want to tell us about their hospital care. Is it by phone? Is it by receiving a letter? Knowing this will allow us to improve the way that we learn about the care you received at our hospital.

If you agree to take part in this study you will:

1. Be asked some questions today
2. Sent a patient survey to your home about the care your received at this hospital in the next 4 weeks

OR

3. You will be called by phone and read the survey that asks about the care you received at this hospital in the next 2 weeks

We want to know if more people tell us about their care when they are phoned or when they were mailed the survey.

There are no risks to taking part in this study. If you are sent the survey or telephoned and read the survey you can decide if you do or do not want to answer the questions about your hospital care; you can 'quit' being in the study at any time. If you quit or do not want to be in this study it will not affect you or your family's future care at this hospital.

There are no benefits to you agreeing to be in this study; but if you want to be in the study this could help us to learn better ways in the future for us to ask our patients about their hospital care.

Any information you give us today or when obtained in the future by telephone or by mail will be only known to me and those working in the study. Your name or other information will only be known by me or others in the study.

It is okay to ask questions about what we are telling you. You can circle or highlight things on this paper you want to know more about. If you don't understand something, just ask us. We want you to ask questions now. We want you to ask questions anytime you think of them.

You may have questions later. If you later have any questions you can call the study author, Geraldine C. Fike. The contact number is 909-806-1923.

For you to be in this study you must agree to be in it. It is still up to you if you *want* to do it.

The questions should take no more than 10 minutes.

Signatures

I have read this form or someone has read it to me. If I did not understand something, I asked the assistant to explain it to me. I can always ask the assistant a question about the study if I don't understand something. I will be given a copy of this form.

Please check the box if you want to be in the study.

☐ **YES**, I want to be in this study and I know I can change my mind later.

Patient's signature:

Printed Name: _____

Date of Signature: _____ Age: _____

Signature of assistant obtaining consent:

Date:

Printed name of assistant obtaining consent:

CONSENTIMIENTO INFORMADO

Queremos contarle sobre un proyecto que tenemos. Queremos saber si usted desea participar en él. Este proyecto es una manera de mejorar nuestra atención. Podemos mejorar nuestra atención conociendo cuál es la mejor manera en que las personas quieren contarnos sobre la atención que recibieron en el hospital después de volver a su hogar.

- La autora del proyecto es Geraldine C. Fike. Es una estudiante de enfermería de la Universidad Western de Ciencias de Atención de la Salud. Trabaja como enfermera, empleada en el Hospital Comunitario de San Bernardino.
- Este proyecto fue aprobado por un grupo de personas. Este grupo protege a nuestros pacientes que se encuentran en estudios como este. El grupo se llama Junta de Revisión Institucional de Northridge Regional. Usted puede tener dudas con respecto a este estudio. Si tiene preguntas puede comunicarse con este grupo de personas o con Joy Schlegal. El número de contacto es 1-818-885-8500, interno 5391.
- Este proyecto también fue aprobado por la Junta de Revisión Institucional de la Universidad Western de Ciencias de la Salud.

El propósito de este proyecto es ver si las personas que fueron pacientes en el hospital nos comentan sobre la atención que recibieron en el hospital después de irse a su hogar, cuando se las llama por teléfono o cuando se envía una carta a su casa. Queremos saber cuál es la mejor manera en que los pacientes desean contarnos sobre la atención que recibieron en el hospital. ¿Prefieren por teléfono? ¿Prefieren recibir una carta? Saber esto nos permitirá mejorar la manera en que nos enteramos sobre la atención que usted recibió en el hospital.

Si acepta participar en este proyecto:

4. Se le realizarán algunas preguntas hoy.
5. Dentro de las próximas 4 semanas, se enviará una encuesta de paciente a su casa sobre la atención que recibió en este hospital.

O BIEN

6. Dentro las próximas 2 semanas se le llamará por teléfono y se leerá la encuesta que pregunta sobre la atención que recibió en este hospital

Queremos saber si más personas nos comentan sobre la atención que recibieron cuando se los llama por teléfono o cuando se les envía la encuesta por correo.

No existe ningún riesgo por participar en este proyecto. Si se le envía la encuesta o si se lo llama y se le lee la encuesta, usted puede decidir si desea o no contestar las preguntas sobre la atención que recibió en el hospital; puede “abandonar” el proyecto en cualquier momento. Si sale o no desea participar en este proyecto, esto no afectará la calidad de la atención en este hospital ni para usted ni para su familia.

No existen beneficios por participar en este proyecto, pero si desea participar, esto nos ayudará a conocer mejores maneras en las que podremos, en el futuro, preguntar a nuestros pacientes sobre la atención que recibieron en el hospital.

Cualquier información que usted nos brinde hoy, o más adelante por teléfono o por correo, sólo será conocida por mí y las personas que trabajan en el proyecto. Su nombre, u otra información, solo serán conocidas por mí u otras personas que trabajan en el proyecto.

Está bien realizar preguntas sobre lo que le estamos diciendo. Puede marcar o resaltar cosas en este papel que desea conocer más. Si hay algo que no comprende, simplemente pregúntenos. Queremos hacerle unas preguntas ahora. Queremos que usted nos haga preguntas en el momento en que las piense.

En el futuro usted puede tener preguntas. Si más adelante tiene alguna pregunta puede llamar a la autora del proyecto, Geraldine C. Fike. El número de contacto es 909-806-1923.

Para poder participar en este proyecto debe aceptar participar. Solo depende de usted si desea hacerlo.

Las preguntas no llevan más de 10 minutos.

Firmas

He leído este formulario o alguien me lo leyó. Si no comprendí algo, le pedí al asistente que me lo explicara. Siempre puedo hacer una pregunta al asistente sobre el proyecto si no comprendo algo. Me entregarán una copia de este formulario.

Marque la casilla si desea participar en el proyecto.

☐ **SÍ**, deseo participar en este proyecto y sé que puedo cambiar de parecer más adelante.

Firma del paciente:

Nombre del paciente en letra de molde:

Fecha de la firma: _____ Edad: _____

Firma del asistente que obtuvo el consentimiento:

Fecha: _____

Nombre en letra de molde del asistente que obtuvo el consentimiento:

APPENDIX D

DEMOGRAPHIC INSTRUMENT

DEMOGRAPHIC INSTRUMENT

INSTRUCTIONS:

This instrument is to be completed by the assistant/manager (author) as part of the feasibility study as described on the Informed Consent:

‘The purpose of this study is to see if people who were patients in the hospital tell us about their hospital care after going home when called by phone or when a letter is sent to their home. We are trying to learn the best way patients want to tell us about their hospital care. Is it by phone? Is it by receiving a letter? Knowing this will allow us to improve the way that we learn about the care you received at our hospital.’

The study is to describe the dissemination of the HCAHPS survey by two different modes of dissemination in order to determine an effective strategy to capture the responses of the ‘vulnerable’ illiterate population served.

The instrument has been reviewed by experts for its contents and is NOT to be distributed to the patient.

DATE: _____

CURRENT AGE: _____ (patient must be 18 or older)

HIGHEST GRADE COMPLETED IN SCHOOL?

***The data collector will continue asking questions if education level is less than grade 12.**

RACE/ETHNICITY:

- ☐ White
- ☐ Black or African American
- ☐ Hispanic/Latino
- ☐ Multiracial
- ☐ Other: _____

WHAT LANGUAGE(S) DO YOU FEEL YOU SPEAK, READ/WRITE?

- ☐ English
- ☐ Spanish
- ☐ Other _____

*** The data collector will continue asking questions if the language(s) is English or Spanish.**

AMERICAN BORN: YES or No

WHERE DID YOU GO TO SCHOOL?

**THE FOLLOWING IS INFORMATION COMPLETED AFTER
DISSEMINATION:**

TRACKING NUMBER: _____

TYPE OF DISSEMINATION:

- ☐ Mail
- ☐ Phone

GROUP 1 MAIL GROUP

DATE DISCHARGED: _____

DATE SURVEY DISSEMINATED:

RETURNED BY **MAIL** (GROUP 1): YES (DATE)

NO

NUMBER OF ITEMS COMPLETED:

GROUP 2 PHONE

DATE DISCHARGED: _____

DATE PHONED: _____

WILLING TO PARTICIPATE BY **PHONE** (GROUP 2): YES or NO

NUMBER OF ITEMS COMPLETED VIA PHONE: _____

NUMBER OF ITEMS REQUIRING CLARIFICATION: _____

APPENDIX E
COPYRIGHT

WOLTERS KLUWER HEALTH LICENSE
TERMS AND CONDITIONS

Jun 01, 2011

This is a License Agreement between Geraldine C. Fike ("You") and Wolters Kluwer Health ("Wolters Kluwer Health") provided by Copyright Clearance Center ("CCC"). The license consists of your order details, the terms and conditions provided by Wolters Kluwer Health, and the payment terms and conditions.

License Number	2680080502902
License date	Jun 01, 2011
Licensed content publisher	Wolters Kluwer Health
Licensed content publication	Nursing Research
Licensed content title	Conceptualizing Vulnerable Populations Health-Related Research
Licensed content author	Jacquelyn Flaskerud and Betty Winslow
Licensed content date	Jan 1, 1998
Volume Number	47
Issue Number	2
Type of Use	Dissertation/Thesis
Requestor type	Individual
Title of your thesis / dissertation	Comparing Telephone versus Mail Dissemination of the Hospital Consumer Assessment of Healthcare Providers and System Survey (HCAHPS) Among Patients with Low Literacy
Expected completion date	Jan 2014
Estimated size(pages)	150
Billing Type	Invoice
Billing Address	2508 Leon La Verne, CA 91750 United States